

# OWNER'S MANUAL

820-007 Rev. M  
Supersedes Rev. L

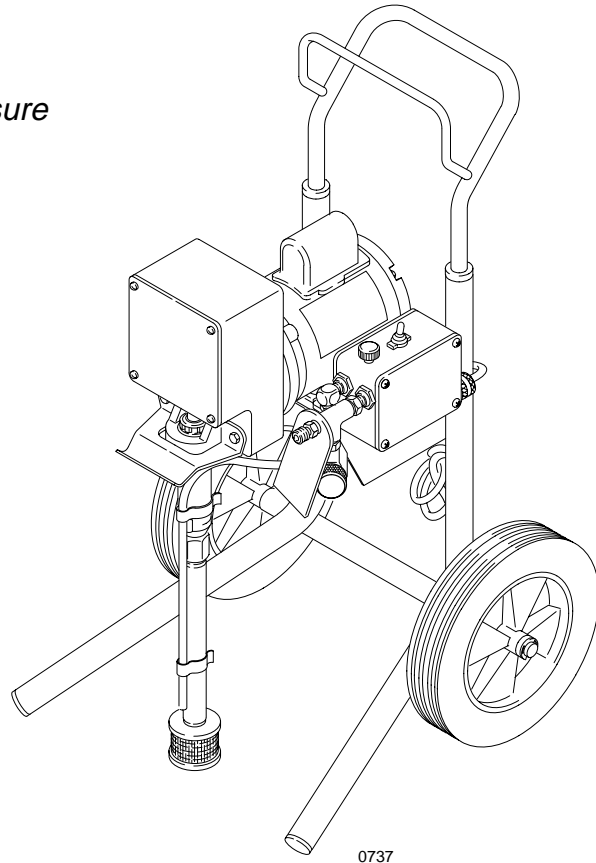
## 1/3 gpm, Portable, Electric **Nova**<sup>™</sup> AIRLESS PAINT SPRAYER

### Model 820-001, Series E

Without hose, gun, or filter

*2500 psi (172 bar) Maximum Working Pressure*

Patent No. 4,323,741



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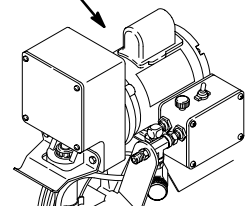
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## DANGER LABELS



The English language DANGER label shown below is also on your sprayer. If you have painters who do not read English, order one of the following labels to apply to your sprayer. The drawing below shows the best placement of these labels for good visibility. Order the labels directly from Graco, free of charge.

Apply alternate label here

<b>French</b>	<b>185-955</b>
<b>Spanish</b>	<b>185-962</b>
<b>German</b>	<b>186-042</b>
<b>Greek</b>	<b>186-046</b>
<b>Korean</b>	<b>186-050</b>
<b>English</b>	<b>185-954</b>



Toll Free: 1-800-367-4023

<div><div>!</div><div>DANGER</div><div>!</div></div>			
<div></div>	<div>FIRE AND EXPLOSION HAZARD</div>	<div></div>	<div>SKIN INJECTION HAZARD</div>
<p>Spray painting, flushing or cleaning equipment with flammable liquids in confined areas can result in fire or explosion.</p> <p>Use outdoors or in extremely well ventilated areas. Ground equipment, hoses, containers and objects being sprayed.</p> <p>Avoid all ignition sources such as static electricity from plastic drop cloths, open flames such as pilot lights, hot objects such as cigarettes, arcs from connecting or disconnecting power cords or turning light switches on and off.</p> <p>Failure to follow this warning can result in death or serious injury.</p>		<p>Liquids can be injected into the body by high pressure airless spray or leaks – especially hose leaks.</p> <p>Keep body clear of the nozzle. Never stop leaks with any part of the body. Drain all pressure before removing parts. Avoid accidental triggering of gun by always setting safety latch when not spraying.</p> <p>Never spray without a tip guard.</p> <p>In case of accidental skin injection, seek immediate “Surgical Treatment”.</p> <p>Failure to follow this warning can result in amputation or serious injury.</p>	
<div>READ AND UNDERSTAND ALL LABELS AND INSTRUCTION MANUALS BEFORE USE</div>			

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# WARNINGS

**High Pressure Spray Can Cause Serious Injury. For Professional Use Only.**  
**Observe All Warnings. Read and understand all instruction manuals before operating equipment.**

## FLUID INJECTION HAZARD

### General Safety

This equipment generates very high fluid pressure. Spray from the gun, leaks or ruptured components can inject fluid through your skin and into your body, and cause extremely serious injury, including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

NEVER point the spray gun at any one or at any part of the body. NEVER put your hand or fingers over the spray tip. NEVER try to “blow back” paint; this is NOT an air spray system.

ALWAYS have the tip guard in place on the spray gun when spraying.

ALWAYS follow the **PRESSURE RELIEF PROCEDURE**, below, before cleaning or removing the spray tip or servicing any system equipment.

NEVER try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

### Medical Alert—Airless Spray Wounds

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT.** Tell the doctor exactly what fluid was injected.

**Note to Physician:** Injection in the skin is a traumatic injury. It is important to treat the injury surgically as soon as possible. **Do not delay treatment to research toxicity.** Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

### Spray Gun Safety Devices

Be sure all gun safety devices are operating properly before each use. Do not remove or modify any part of the gun; this can cause a malfunction and result in serious injury.

### Safety Latch

Whenever you stop spraying, even for a moment, always set the gun trigger safety in the closed or “safe” position, making the gun inoperative. Failure to set the safety latch can result in accidental triggering of the gun.

### Diffuser

The gun diffuser breaks up spray and reduces the risk of fluid injection when the tip is not installed. Check diffuser operation regularly. Follow the **PRESSURE RELIEF PROCEDURE**, below, then remove the spray tip. Aim the gun into a metal pail, holding the gun firmly to the pail. Using the lowest possible pressure, trigger the gun. If the fluid emitted is *not* diffused into an irregular stream, replace the diffuser immediately.

### Tip Guard

ALWAYS have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the fluid injection hazard and helps reduce, but does not prevent, the risk of accidentally placing your fingers or any part of your body close to the spray tip.

### Trigger Guard

Always have the trigger guard in place on the gun when spraying to reduce the risk of accidentally triggering the gun if it is dropped or bumped.

### Spray Tip Safety

Use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, lock the gun trigger safety immediately. ALWAYS follow the **PRESSURE RELIEF PROCEDURE**, below, and then remove the spray tip to clean it.

NEVER wipe off build-up around the spray tip until the pressure is fully relieved and the gun trigger safety is locked.

## PRESSURE RELIEF PROCEDURE

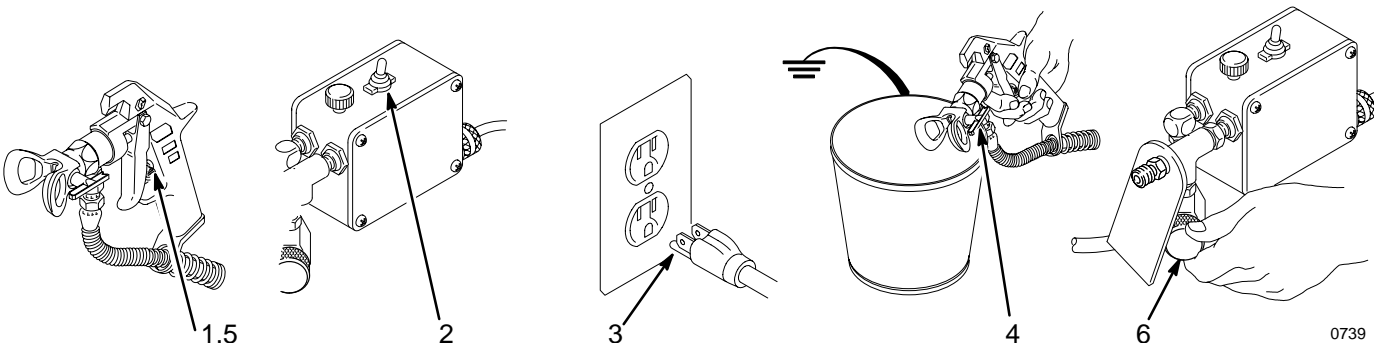
To reduce the risk of serious injury, including fluid injection, splashing fluid or solvent in the eyes or on the skin, or injury from moving parts or electric shock, always follow this procedure whenever you shut off the sprayer, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Lock the gun trigger safety.
2. Turn the ON/OFF switch to OFF.
3. Unplug the power supply cord.
4. Unlock the gun trigger safety. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve the pressure.

5. Lock the gun trigger safety.

6. Open the pressure drain valve, having a container ready to catch the drainage. Leave the valve open until you are ready to spray again.

*If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen the tip guard retaining nut or hose end coupling to relieve the pressure gradually, then loosen completely. Now clear the tip or hose.*



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## EQUIPMENT MISUSE HAZARD

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### General Safety

Any misuse of the spray equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious injury, or fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

### System Pressure

This sprayer can develop 2500 psi (172 bar) **MAXIMUM WORKING PRESSURE**. Be sure all spray equipment and accessories used are rated to withstand this pressure. DO NOT exceed the maximum working pressure of any component or accessory used in the system.

### Fluid and Solvent Compatibility

All chemicals used in the sprayer must be chemically compatible with the wetted parts shown in the **TECHNICAL DATA** on page 28. Consult your chemical supplier to ensure compatibility.

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment, which contains aluminum and/or zinc parts. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious injury and/or substantial property damage.

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## HOSE SAFETY

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High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause a fluid injection injury or other serious injury or property damage.

**All fluid hoses must have strain reliefs on both ends!** The strain reliefs help protect the hose from kinks or bends at or close to the coupling which can result in hose rupture.

TIGHTEN all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

NEVER use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. DO NOT try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot contain the high pressure fluid.

**Handle and route hoses carefully.** Do not pull on hoses to move equipment. Keep hoses clear of moving parts and hot surfaces of the pump and gas engine. Do not use fluids or solvents which are not compatible with the inner tube and cover of the hose. DO NOT expose Graco hoses to temperatures above 180° F (82° C) or below -40° F (-40° C).

### Hose Grounding Continuity

Proper hose grounding continuity is essential to maintaining a grounded spray system. Check the electrical resistance of your fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. Use a resistance meter in the appropriate range for your hose to check the resistance. If the resistance exceeds the recommended limits, replace it immediately. An ungrounded or poorly grounded hose can make your system hazardous. Also read **FIRE OR EXPLOSION HAZARD**, below.

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## FIRE OR EXPLOSION HAZARD

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Static electricity is created by the flow of fluid through the pump and hose. If every part of the spray equipment is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord or using a gasoline engine. Sparks can ignite fumes from solvents and the fluid being sprayed, dust particles and other flammable substances, whether you are spraying indoors or outdoors, and can cause a fire or explosion and serious injury and property damage.

If you experience any static sparking or even a slight shock while using this equipment, **STOP SPRAYING IMMEDIATELY**. Check the entire system for proper grounding. Do not use the system again until the problem has been identified and corrected.

### Grounding

To reduce the risk of static sparking, ground the sprayer and all other spray equipment used or located in the spray area. CHECK your local electrical code for detailed grounding instructions for your area and type of equipment. BE SURE to ground all of this spray equipment:

1. *Sprayer:* plug the power supply cord, or extension cord, both equipped with an undamaged three-prong plug, into a properly grounded outlet. Do not use an adapter. All extensions cords must have three wires and be rated for 15 amps.
2. *Fluid hoses:* use only grounded hoses with a maximum of 500 ft (150 m) combined hose length to ensure grounding continuity. See **Hose Grounding Continuity** above.
3. *Spray gun:* obtain grounding through connection to a properly grounded fluid hose and sprayer.

4. *Object being sprayed:* according to local code.
5. *Fluid supply container:* according to local code.
6. *All solvent pails used when flushing,* according to local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
7. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun.

### Flushing Safety

Reduce the risk of fluid injection injury, static sparking, or splashing by following the flushing procedure given on page 12 of this manual. Follow the **PRESSURE RELIEF PROCEDURE** on page 4, and remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of a grounded metal pail and use the lowest possible fluid pressure during flushing.

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## MOVING PARTS HAZARD

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Moving parts can pinch or amputate your fingers or other body parts. KEEP CLEAR of moving parts when starting or operating the sprayer. Follow the **Pressure Relief Procedure** on page 4 before checking or servicing any part of the sprayer, to prevent it from starting accidentally.

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## IMPORTANT

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United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards – particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 – should be consulted.

# Avertissement

La pulvérisation à haute pression peut causer des blessures très graves.  
Réservé exclusivement à l'usage professionnel. Observer toutes les consignes de sécurité.  
Bien lire et bien comprendre tous les manuels d'instructions avant d'utiliser le matériel.

## RISQUES D'INJECTION

### Consignes générales de sécurité

Cet appareil produit un fluide à très haute pression. Le fluide pulvérisé par le pistolet ou le fluide sous pression provenant de fuites ou de ruptures peut pénétrer sous la peau ou à l'intérieur du corps et entraîner des blessures très graves, voir même une amputation. Même sans être sous pression, le fluide éclaboussant ou entrant dans les yeux peut aussi entraîner des blessures graves.

NE JAMAIS pointer le pistolet vers quelqu'un ou vers une partie quelconque du corps. NE JAMAIS mettre le main ou les doigts sur l'ajutage du pulvérisateur. NE JAMAIS essayer de "refouler" la peinture. Cet appareil N'est PAS un compresseur pneumatique.

TOUJOURS garder la protection de l'ajutage en place sur le pistolet pendant la pulvérisation.

TOUJOURS observer la **Marche à Suivre Pour Détendre la Pression** donnée plus loin, avant de nettoyer ou d'enlever l'ajutage du pulvérisateur, ou d'effectuer un travail quelconque sur une partie de l'appareil.

NE JAMAIS essayer d'arrêter ou de dévier les fuites avec la main ou le corps.

Avant chaque utilisation, bien s'assurer que les dispositifs de sécurité fonctionnent correctement.

### Soins médicaux

En cas de pénétration de fluide sous la peau: **DEMANDER IMMEDIATEMENT DES SOINS MEDICAUX D'URGENCE.** Ne pas soigner cette blessure comme une simple coupure.

**Avis au médecin:** La pénétration des fluides sous la peau est un traumatisme. **Il est important de traiter chirurgicalement cette blessure immédiatement.** Ne pas retarder le traitement pour effectuer des recherches sur la toxicité. Certains revêtements exotiques sont dangereusement toxiques quand ils sont injectés directement dans le sang. Il est souhaitable de consulter un chirurgien esthétiques ou un chirurgien spécialisé dans la reconstruction des mains.

## MARCHE A SUIVRE POUR DETENDRE LA PRESSION

Pour réduire les risques de blessures graves, y compris les blessures par projection de fluide ou celles causées par des éclaboussures dans les yeux ou sur la peau, par des pièces en mouvement, toujours bien observer cette marche à suivre chaque fois que l'on arrête le pulvérisateur, à l'occasion de la vérification, du réglage ou du nettoyage du système ou lors du changement des ajutages.

1. Engager le verrou de sécurité du pistolet.
2. Mettre l'interrupteur March-Arrêt sur ARRET (OFF).
3. Débrancher le cordon d'alimentation.
4. Désengager le verrou de sécurité du pistolet. Tout en maintenant une partie métallique du pistolet fermement appuyé contre le côté d'un seau en métal, actionner le pistolet pour libérer la pression.

### Dispositifs de sécurité du pistolet

Avant chaque utilisation, bien s'assurer que tous les dispositifs de sécurité du pistolet fonctionnent correctement. Ne pas enlever ni modifier une partie quelconque du pistolet; ceci risquerait d'entraîner un mauvais fonctionnement et des blessures graves.

#### Verrou de sécurité

A chaque fois que l'on s'arrête de pulvériser, même s'il s'agit d'un court instant, toujours mettre le verrou de sécurité du pistolet sur la position, "fermée" ou "sécurité" ("safe"), pour empêcher le pistolet de fonctionner. Si le verrou de sécurité n'est pas mis, le pistolet peut se déclencher accidentellement.

#### Diffuseur

Le diffuseur du pistolet sert à diviser le jet et à réduire les risques d'injection accidentelle quand l'ajutage n'est pas en place. Vérifier le fonctionnement du diffuseur régulièrement. Pour cette vérification, détendre la pression en observant la **Marche à Suivre Pour Détendre la Pression** donnée plus loin enlever l'ajutage du pulvérisateur. Pointer le pistolet dans un seau en métal, en le maintenant fermement contre le seau. puis, en utilisant la pression la plus faible possible, appuyer sur la gâchette du pistolet. Si le fluide projeté n'est pas diffusé sous forme de jet irrégulier, remplacer immédiatement le diffuseur.

#### Protection de l'ajutage

TOUJOURS maintenir la protection de l'ajutage en place sur le pistolet du pulvérisateur pendant la pulvérisation. La protection de l'ajutage attire l'attention sur les risques d'injection et contribue à réduire, mais n'évite pas le risque, que les doigts ou une partie quelconque du corps ne passent accidentellement à proximité immédiate de l'ajutage du pulvérisateur.

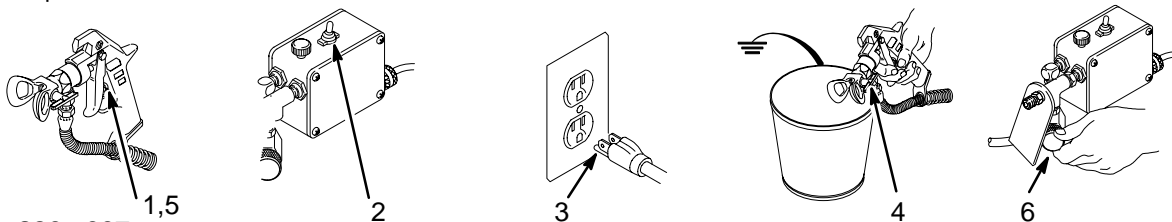
### Consignes de sécurité concernant l'ajutage du pulvérisateur

Faire extrêmement attention à l'occasion du nettoyage ou du remplacement des ajutages du pulvérisateur. Si l'ajutage se bouche pendant la pulvérisation, mettre immédiatement le verrou de sécurité du pistolet. TOUJOURS bien observer la **Marche à Suivre Pour Détendre la Pression** puis enlever l'ajutage du pulvérisateur pour le nettoyer.

NE JAMAIS essuyer ce qui s'est accumulé autour de l'ajutage du pulvérisateur avant que la pression ne soit complètement tombée et que le verrou de sécurité du pistolet ne soit engagé.

5. Engager le verrou de sécurité du pistolet.
6. Ouvrir la soupape de sécurité et la laisser ouverte jusqu'à ce que l'on soit prêt à se servir de nouveau du pulvérisateur.

Si l'on soupçonne que le tuyau ou l'ajutage est complètement bouché ou que la pression n'a pas été complètement libérée après avoir procédé aux opérations ci-dessus, desserrer TRES LENTEMENT un raccord de bout de tuyau ou l'écrou de retenue de la protection de l'ajutage et libérer progressivement la pression.



## RISQUES EN CAS DE MAUVAISE UTILISATION DU MATERIAL

### Consignes générales de sécurité

toute utilisation anormale de l'appareil de pulvérisation ou des accessoires comme, par exemple, la mise sous une pression excessive, les modifications de pièces, l'utilisation de produits chimiques et de matières incompatibles et l'utilisation de pièces usées ou abîmées peut causer des dégâts à l'appareil ou des ruptures de pièces et entraîner une injection de liquide ou d'autres blessures sérieuses, un incendie, une explosion ou d'autres dégâts.

## MESURES DE SECURITE CONCERNANT LES TUYAUX FLEXIBLES

### Compatibilité chimique des corps

BIEN S'ASSURER que tous les corps des solvants utilisés sont chimiquement compatibles avec les parties mouillées indiquées dans les "Données techniques", à la page 24. Toujours lire soigneusement les documents et brochures du fabricant des fluides et solvants utilisés avant de s'en servir dans ce pulvérisateur.

Le fluide à haute pression circulant dans les tuyaux peut être très dangereux. En cas de fuite sur le tuyau, de fissure, déchirure ou rupture à la suite de l'usure, de dégâts ou d'une mauvaise utilisation, les projections de fluide haute pression qui en proviennent peuvent entraîner des blessures graves par pénétration sous la peau ou par contact, ainsi que des dégâts matériels.

**Tous les tuyaux flexibles doivent avoir des ressorts spirale de protection aux 2 bouts!** Les spirales de protection contribuent à éviter la formation de pliures, de boucles ou de nœuds sur les tuyaux qui pourraient entraîner la rupture du tuyau à l'endroit du raccord ou à son voisinage.

Serrer fermement tous les raccords avant chaque utilisation. Le fluide sous pression peut faire sauter un raccord desserré ou produire un jet à haute pression s'échappant par le raccord.

NE JAMAIS utiliser un tuyau endommagé. NE PAS essayer de refaire le raccord d'un tuyau haute pression ni de réparer le tuyau avec du ruban adhésif ou par tout autre moyen. Un tuyau réparé ne peut pas résister au fluide sous pression.

## RISQUES D'INCENDIE OU D'EXPLOSION

De l'électricité statique est produite par le passage du fluide à grande vitesse dans la pompe et dans les tuyaux. Si toutes les pièces de l'appareil de pulvérisation ne sont pas convenablement reliées ou à la masse ou à la terre, des étincelles peuvent se produire et l'appareil risque d'être dangereux. Des étincelles peuvent également se produire à l'occasion du branchement ou du débranchement du cordon d'alimentation ou de l'utilisation d'un moteur à essence. Les étincelles sont suffisantes pour allumer les vapeurs de solvants et le fluide pulvérisé, les fines particules de poussière ainsi que d'autres substances inflammables, quand on pulvérise à l'intérieur ou à l'extérieur, et elles peuvent causer un incendie ou une explosion, ainsi que des blessures graves et des dégâts matériels.

S'il se produit des étincelles d'électricité statique, ou si vous ressentez la moindre décharge, **ARRETEZ IMMEDIATEMENT LA PULVERISATION**. Vérifiez que le système avant que le problème soit identifié et corrigé.

### Mise à la terre ou à la masse

Pour réduire les risques de production d'étincelles d'électricité statique, le pulvérisateur et tous les équipements utilisés ou se trouvant dans la zone de pulvérisation doivent être reliés à la terre ou à la masse. Pour connaître le détail des instructions de mise à la terre dans la région et le type particulier d'équipement, CONSULTER le code ou les réglementations électriques locales. S'ASSURER que tous les équipements de pulvérisation suivants sont bien reliés à la terre:

1. **Pulvérisateur:** Brancher le cordon d'alimentation ou la rallonge qui doivent être équipés d'une prise à 3 fiches en bon état, dans une prise de courant convenablement mise à la terre. Ne pas utiliser d'adaptateur. Toutes les rallonges doivent avoir 3 fils et être prévues pour 15 ampères.

Toujours porter une protection pour les yeux, de gants, des vêtements protecteur et un dispositif pour la respiration correspondant aux recommandations des fabricants de fluides et solvants.

### Pression

Ce pulvérisateur peut produire une **PRESSION MAXIMUM DE TRAVAIL 172 bar (2500lb/po.2)**. S'assurer que tous les éléments du pulvérisateur et ses accessoires sont conçus pour résister à la pression maximum de travail de ce pulvérisateur. NE PAS dépasser la pression maximum de travail d'aucun des éléments ou accessoires utilisés avec cet appareil.

### Manipuler les tuyaux avec précaution et choisir soigneusement leur chemin.

Ne pas déplacer le fluide en tirant sur le tuyau. Ne pas utiliser de fluides ou de solvants qui ne sont pas compatibles avec l'enveloppe intérieure ou extérieure de tuyau. NE PAS exposer le tuyau à fluides des températures supérieures à 82°C (180°F) ou inférieures à -40°C (-40°F).

### Continuité de la mise à la terre des tuyaux

Une bonne continuité de la mise à la terre des tuyaux est essentielle pour maintenir la mise à la terre de l'ensemble de vaporisation. Vérifiez la résistance électrique de vos tuyaux à fluides et à air, au moins une fois par semaine. Si votre tuyau ne comporte pas d'étiquette qui précise la résistance électrique maximum, prenez contact avec le fournisseur de tuyaux ou la fabricant pour avoir les limites de résistance maximum. Utilisez un mètre de résistance de la gamme appropriée pour votre tuyau et vérifiez la résistance. Si celle-ci dépasse les limites recommandées, remplacez le tuyau immédiatement. Un tuyau sans mise à la terre ou avec une mise à la terre incorrecte peut entraîner des risques pour votre système. Lisez aussi **LES RISQUES D'INCENDIE OU D'EXPLOSION**.

2. **Pistolet:** Réaliser la mise à la terre en le raccordant à un tuyau flexible et à un pulvérisateur déjà convenablement reliés à la terre.
3. **Tuyaux flexibles:** Afin d'assurer la continuité de la mise à la terre, n'utiliser que des tuyaux comportant une mise à la terre et ayant une longueur maximum combinée de 150 m (1500 pieds). Se reporter également au paragraphe, "**Continuité du circuit de mise à la terre des tuyaux**".
4. **Réceptacle d'alimentation:** observer le code ou les réglementations locales.
5. **Objets, matériel ou surfaces recevant la pulvérisation:** observer le code ou les réglementations locales.
6. **Tous les seaux de solvant** utilisés pour le rinçage: observer le code ou les réglementations locales. *N'utiliser que des seaux métallique* conducteurs de l'électricité. Ne pas mettre le seau sur une surface non conductrice comme sur du papier ou du carton car cela interromprait la continuité de la mise à la terre.
7. **Pour conserver la continuité de la mise à la terre quand on rince le matériel ou quand on libère la pression,** toujours maintenir une partie métallique du pistolet fermement appuyée contre le côté d'un seau *en métal* puis appuyer sur la détente du pistolet.

### Mesures de Sécurité concernant le Rinçage

Pour réduire les risques de blessures par pénétration de la peau et les risques dus aux étincelles d'électricité statique ou aux éclaboussures, observe la marche à suivre pour le rinçage donnée à la page 12 de ce manuel.

NE JAMAIS faire tourner un moteur dans un bâtiment fermé à moins que les gaz d'échappement ne soient dirigés au dehors. Les gaz d'échappement contiennent de l'oxyde de carbone, un gaz toxique, inodore et invisible qui peut entraîner des malaises graves ou même la mort si l'on le respire.

# ADVERTENCIA

EL ROCIADO a ALTA PRESIÓN PUEDE CAUSAR GRAVES LESIONES.  
SOLO PARA USO PROFESIONAL. RESPETE LOS AVISOS DE ADVERTENCIA.  
Lea y entienda todo el manual de instrucciones antes de manejar el equipo.

## PELIGRO DE INYECCION DE FLUIDO

### Seguridad general

Este equipo genera un fluido a una presión muy alta. El rociado de la pistola, los escapes de fluido o roturas de los componentes pueden inyectar fluido en la piel y el cuerpo y causar lesiones extremadamente graves, incluyendo a veces la necesidad de amputación. También, el fluido inyectado o salpicado en los ojos puede causar graves daños.

NUNCA apuntar la pistola hacia alguien o alguna parte del cuerpo. NUNCA colocar la mano o los dedos encima de la boquilla. NUNCA tratar de “hacer retornar la pintura”; este NO es un sistema de rociado de aire.

SIEMPRE tener colocado el protector de la boquilla en la pistola mientras se está pulverizando.

SIEMPRE seguir el **procedimiento de descarga de presión**, dado más abajo, *antes* de limpiar o sacar la boquilla o de dar servicio a cualquier del sistema.

NUNCA tratar de parar o desviar los escapes con la mano o el cuerpo.

Asegurar que todos los aparatos de seguridad del equipo están funcionando bien antes de cada uso.

### Tratamiento médico

Si pareciera que un poco de fluido penetró la piel, conseguir **TRATAMIENTO MEDICO DE URGENCIA DE INMEDIATO. NO TRATAR LA HERIDA COMO UN SIMPLE CORTE.** Decir al médico exactamente cual fluido fue.

**Aviso al médico:** Si se llega a inyectar este fluido en la piel se causa una lesión traumática. **Es importante tratar quirúrgicamente la lesión a la brevedad posible.** No demorar el tratamiento para investigar la toxicidad. La toxicidad es algo de suma importancia en algunas pinturas exóticas cuando se inyectan directamente al torrente sanguíneo. Será conveniente consultar a un especialista en cirugía plástica o reconstructiva de las manos.

### Aparatos de seguridad de la pistola pulverizadora

Asegurar que todos los aparatos protectores de la pistola están funcionando bien antes de cada uso. No sacar ni modificar ninguna pieza de la pistola pues podría causar el malfuncionamiento de la misma con las consiguientes lesiones personales.

### Pestillo de seguridad

Cada vez que se deje de pulverizar, aunque sea por un breve momento, siempre colocar el pestillo de seguridad en la posición “cerrada”, lo que deja la pistola inoperante. El no hacerlo puede llevar al disparo imprevisto de la pistola.

### Difusor

El difusor de la pistola dispersa el chorro pulverizado y reduce el riesgo de inyección cuando no está instalada la boquilla. Revisar con regularidad el funcionamiento del difusor. Seguir el **procedimiento de descarga de presión**, dado más abajo, y después sacar la boquilla. Apuntar la pistola a un balde metálico, sosteniéndola bien firme contra él. Utilizando la presión más bajo posible, disparar la pistola. Si el fluido emitido *no sale disperso* en un chorro irregular, reemplazar de inmediato el difusor.

### Protector de la boquilla

SIEMPRE tener el protector de la boquilla colocado en la pistola mientras se está pulverizando. Este protector llama la atención contra el peligro de inyección y ayuda a reducir, pero no evita, la colocación accidental de los dedos o cualquier otra parte del cuerpo cerca de la boquilla.

### Seguridad de la boquilla pulverizadora

Tener mucho cuidado al limpiar o cambiar las boquillas. Si llega a obstruirse mientras está pulverizando, enganchar el pestillo de la pistola de inmediato. SIEMPRE seguir el **procedimiento de descarga de presión** y después sacar la boquilla para limpiarla.

NUNCA limpiar la acumulación de pintura alrededor de la boquilla antes de que se haya descargado por completo la presión y el pestillo esté enganchado.

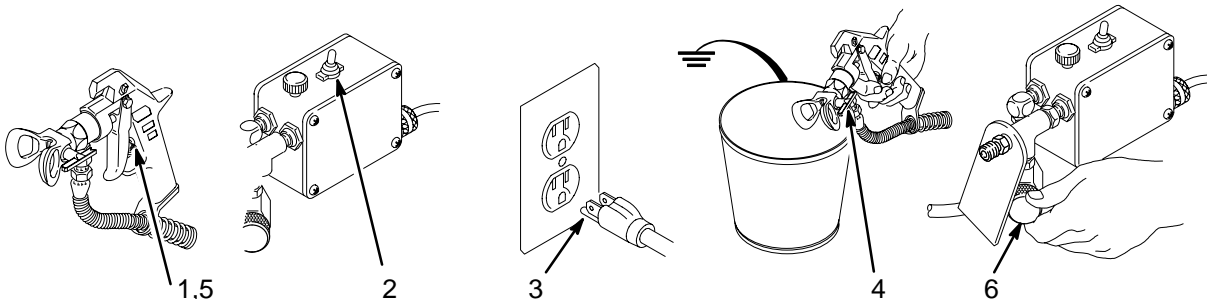
## PROCEDIMIENTO DE DESCARGA DE PRESION

Para reducir el riesgo de sufrir graves lesiones corporales, incluyendo la inyección de fluidos, salpicaduras en los ojos o la piel, o lesiones causadas por piezas en movimiento, siempre seguir este procedimiento al apagar la máquina pulverizadora, al revisar, ajustar o limpiar el sistema, o al cambiar las boquillas.

1. Enganchar el pestillo de seguridad de la pistola.
2. Mover el interruptor eléctrico (ON/OFF) a la posición OFF (apagado).
3. Desenchufar el cordón eléctrico.
4. Desenganchar el pestillo de seguridad de la pistola. Mantener una parte metálica de la pistola firmemente contra el lado de un balde de metal y activar la pistola para descargar la presión.

5. Volver a enganchar el pestillo de seguridad de la pistola.
6. Abrir la válvula de alivio de presión y dejarla abierta hasta que se esté nuevamente listo para pulverizar.

*Si se sospecha que la boquilla o la manguera esté completamente obstruida, o que no se ha descargado por completo la presión después de haber seguido el procedimiento anterior, aflojar MUY LENTAMENTE un adaptador de extremo de la manguera o la tuerca de retención del protector de la punta y descargar gradualmente la presión.*





## PELIGRO POR MAL USO DEL EQUIPO

### Seguridad general

Cualquier mal uso del equipo pulverizador o los accesorios, tal como sobre presurización, modificación de piezas, uso de materiales y productos químicos incompatibles, o utilización de piezas dañadas o desgastadas, puede hacer que se rompan y causen la inyección de fluido u otras lesiones corporales graves, incendio, explosión o daños a la propiedad.

Siempre usar gafas, guantes, vestimentas protectoras y un respiradero, tal como recomiendan los fabricantes del fluido y del solvente.

### Presión del sistema

Esta pulverizadora puede desarrollar *barías (2500 psi) de PRESION DE TRABAJO MAXIMA*. Asegurar que todo el equipo pulverizador y sus accesorios tienen la capacidad para aguantar la presión máxima de trabajo de ningún componente o accesorio de este sistema.

### Compatibilidad de fluido

Siempre leer las instrucciones del fabricante del fluido y solvente antes de usarlos en esta pulverizadora.

## SEGURIDAD EN EL USO DE LAS MANGUERAS

El fluido que escape a alta presión por las mangueras puede ser muy peligroso. Si en la manguera se desarrolla un escape, una rotura o rajadura debido a cualquier tipo de desgaste, daño o maltrato, el chorro a alta presión emitido por allí puede causar una lesión por inyección u otras lesiones corporales graves o daños a la propiedad.

**¡Todas las mangueras para fluidos tienen que tener guardas de resorte en ambos extremos!** Estas protegen las mangueras contra dobleces o retorceduras en los acoplamientos o cerca de ellos, los que podrían traducirse en roturas de la manguera.

Antes de usarlas, APRETAR bien firmes todas las conexiones. El fluido a lata presión puede desalojar un acoplamiento suelto o dejar que pro él escape un chorro a alta presión.

NUNCA usar una manguera que está dañada. Siempre revisarla en busca de cortaduras, escapes, abrasión, cubierta abultada, o acoplamientos sueltos o dañados. Si llegara a encontrarse cualquiera de estas condiciones, reemplazar de inmediato la manguera. NO intentar reacomodar una manguera de alta presión o enmendarla con cinta adhesiva u otro material similar. Una manguera que ha sido remendada no aguante el fluido al alta presión.

Manejar y pasar cuidadosamente las mangueras. No tirar de las mangueras para mover el equipo. No usar fluidos o solventes que sean incompatibles con el tubo interno y la cubierta de la manguera. NO exponer las mangueras a temperaturas sobre 82° C (180°F) o bajo -40°C (-40° F).

### Continuidad del circuito de puesta a tierra de la manguera

La continuidad del circuito de puesta a tierra apropiado es esencial para mantener conectado a tierra el sistema pulverizador. Es indispensable revisar la resistencia eléctrica máxima de las mangueras de aire y de fluido por lo menos una vez a la semana. Si la manguera no tiene una etiqueta en la cual se especifica la resistencia eléctrica máxima, ponerse en contacto con el proveedor o fabricante de la manguera para la información sobre los límites de resistencia. Usar un metro de resistencia en la gama apropiada para comprobar la resistencia; si excede los lites recomendados, reemplazarla de inmediato. Es muy arriesgado tener una manguera sin puesta a tierra o con la puesta a tierra en malas condiciones. Leer también la información sobre **RIESGO DE INCENDIO O EXPLOSION**, más arriba.

## PELIGRO DE INCENDIO O EXPLOSION

El flujo a alta velocidad del fluido al pasar por la bomba y manguera crea electricidad estática. Si todas las partes del equipo pulverizador no tienen buena tierra, pueden ocurrir chispas, convirtiéndolo al sistema en algo peligroso. También, pueden producirse chispas al enchufar o desenchufar el cordón eléctrico o al usar un motor de gasolina. Estas chispas pueden inflamar los vapores de los solventes y el chorro de fluido pulverizado, partículas de polvo y otras sustancias inflamables, sea al aire libre o bajo techo, lo que podría causar una explosión o incendio y graves lesiones corporales y daños a la propiedad.

Si ocurre una chispa de electricidad estática o incluso un ligero choque eléctrico mientras se usa el equipo, DEJAR DE PULVERIZAR DE INMEDIATO. Revisar todo el sistema en busca de una tierra apropiado. No usar de nuevo el sistema hasta haber identificado y solucionado el problema.

### Puesta a tierra

Para reducir el riesgo de chispas estáticas, conectar a tierra la pulverizadora y todo el otro equipo de pulverizar que se use o se encuentre en el lugar que se va a rociar. CONSULTAR el código eléctrico de la localidad para las instrucciones sobre las conexiones a tierra exigidas para la zona y tipo de equipo. ASEGUAR de conectar a tierra todo este equipo pulverizador:

1. **Pulverizadora:**enchufar el cordón eléctrico, o cable extensor, cada uno con un enchuf de tres patas en buen estado, a un tomacorriente con puesta a tierra apropiado. No usar un adaptador. Todos los cables extensores tienen que tener tres hilos y una capacidad de 15 amperios.

2. **Mangueras para fluidos:** usar solamente mangueras con puesta a tierra de una longitud combinada de 150 m (500 pies), para asegurar buena continuidad a Referirse también al párrafo sobre **continuidad a tierra de la manguera**.
3. **Pistola:** hacer la puesta a tierra conectándola a una manguera de fluido y pulverizadora bien conectadas a tierra.
4. **Suministrar un recipiente:** de acuerdo al código local. Usar *solamente baldes de metal*, que sean conductivos. No colocar el balde en una superficie no conductiva, como papel o cartón, que interrumpe la continuidad a tierra.
5. **Objeto que se está rociando:** de conformidad con el código local.
6. **Todos los baldes de solvente** usados durante el lavado, de conformidad con el código local.
7. **Para mantener la continuidad a tierra durante el lavado o descarga de presión,** siempre apoyar una parte metálica de la pistola bien firme contra el costado de *balde de metal*, después apretar el gatillo.

### Seguridad durante el lavado

Para reducir el riesgo de que se inyecte o salpique fluido en la piel, o que ocurra una descarga de electricidad estática, siempre seguir las INSTRUCCIONES PARA EL LAVADO, dadas en la página 12. Seguir el **procedimiento de descarga de presión** en la página 8, y quitar la *boquilla de metal* y usar la presión más baja posible de fluido durante el lavado.

# Setup

1. **Connect the hose and gun.** Remove the plastic cap from the outlet nipple (C), and connect a 50 ft. (15 m) (minimum length) fluid hose to it. Connect the other end of the hose to the spray gun. Don't use thread sealant, and don't install the spray tip yet!

## CAUTION

To avoid damaging the pressure control, which may result in poor equipment performance and component damage, follow these precautions:

1. Always use a minimum of 50 ft. (15.2 m) nylon spray hose.
2. Never use a wire braid hose as it is too rigid to act as a pulsation dampener.
3. Never install any shutoff device between the outlet of the pressure control and the main hose.
4. Never allow flushing water or water base paint to freeze in the system.

2. **Fill the packing nut/wet cup (D)** 1/3 full with throat seal liquid, supplied. Keep the wet cup filled to help protect and prolong the life of the pump's throat packings.
3. **Be sure the electrical service is 120 VAC, 60 Hz, 15 Amp** (minimum) and that the outlet you use is properly grounded.

Use a grounded extension cord which has 3 wires of a minimum 12 gauge size, and a maximum of 200 ft. (61 m) long. Longer lengths may affect sprayer performance.

Do not remove the grounding prong of the power supply cord plug, and do not use an adapter.

4. **Set the pressure control** by turning the knob (B) to the lowest setting.
5. **Be sure the ON/OFF switch (A) is OFF.**
6. **Plug the power supply cord into a grounded electrical outlet** that is at least 20 ft. (6 m) away from the spray area to reduce the chance of a spark igniting the spray vapors.
7. **An optional filter kit, part no. 820-080,** is available. Instructions are included with it.

8. **Flush the pump.** An important part of the care and maintenance of your sprayer is proper flushing. Refer to page 12.

## CAUTION

Never operate the sprayer without the drain valve (19) in place. The drain valve is used to help relieve system pressure and to help prime the sprayer.

Do not attach a spray hose to the drain valve; doing so could result in costly damage to the pressure control.

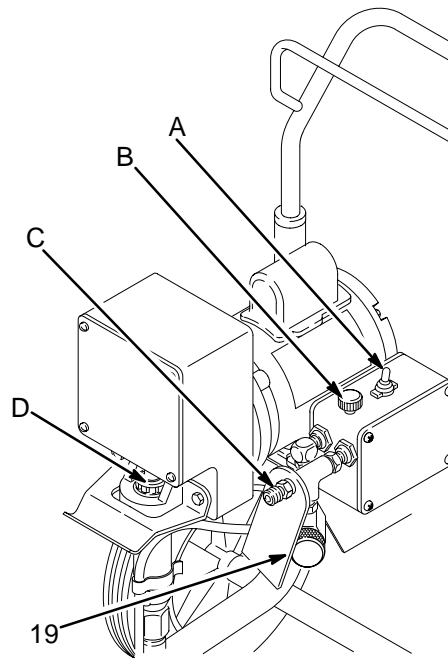


Fig. 1

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9. **Prepare the paint** as instructed by the manufacturer. Remove any skin that may have formed. Stir the paint to dissolve pigments. Strain the paint through a fine, nylon-mesh bag (available at most paint dealers) to remove particles that might clog the spray tip. *This is probably the most important step toward trouble-free spray painting.*

New paint seldom needs thinning. Add solvent to old and remixed paints to replace the solvent lost through evaporation. Do not add too much solvent as thin paint is hard to control and doesn't cover very well. Follow the paint manufacturer's recommendations on thinning.

# Setup

## 10. Prime the sprayer.

- a. Close the drain valve (19). Don't install the spray tip yet! See Fig. 1.
- b. Put the suction tube into the paint container.
- c. Turn the pressure adjusting knob (B) all the way counterclockwise to lower the pressure setting.
- d. Unlock the gun trigger safety.
- e. Hold a metal part of the gun firmly against and aimed into a grounded metal waste container.
- f. Squeeze the trigger and hold it open, turn the ON/OFF switch to ON, and slowly increase the pressure setting until the sprayer starts.

- g. Keep the gun triggered until all air is forced out of the system and the paint flows freely from the gun.
- h. Release the trigger and lock the gun trigger safety.

**NOTE:** If the pump is hard to prime, place a container under the drain valve and open it. Let the sprayer run until paint is running through the drain valve. Close the drain valve. This method bleeds the air from the pump. Then release the gun trigger safety and trigger the gun to prime the hose as instructed previously, under **Prime the Sprayer**.

11. Check all fluid connections for leaks. If any are found, follow the **Pressure Relief Procedure**, page 4, before tightening connections.

## Adjust the Spray Pattern

Increase the pressure adjusting knob setting just until spray from the gun is completely atomized. Use the lowest pressure necessary to get the desired results, which helps prolong the life of your sprayer and minimizes paint lost by overspray.

Test the spray pattern on a piece of light colored paper. The tip position determines the direction of the pattern width. Before adjusting the pattern always follow the **Pressure Relief Procedure Warning** on page 4.

## Cleaning and Clearing the Spray Tip

### WARNING

To reduce the risk of injection injury, DO NOT hold your hand, body, or a rag in front of the spray tip when cleaning or checking a clogged tip. Always point the gun toward the ground or into a waste container when checking to see if the tip is clear.

DO NOT try to "blow back" paint; this is NOT air spray equipment.

If the spray tip clogs while spraying, lock the gun trigger safety immediately. DO NOT wipe build up off the gun or tip until pressure is fully relieved. See the **Pressure Relief Procedure Warning** on page 4.

Clean out the front of the spray tip frequently during daily operation. First, follow the **Pressure Relief Procedure Warning** page 4. Then use a solvent soaked brush to clean the spray tip and to keep build up from drying and clogging the spray tip.

# Flushing

## When To Flush

1. **Before using your new sprayer.** Your new sprayer was factory tested with motor oil and the oil was left in it to protect the pump parts.

*Before using water-based paint,* flush out the oil with mineral spirits, followed by soapy water, and then with clean water.

*Before using oil-based paint,* flush out the oil with mineral spirits only.

2. Whenever you **change the paint color.** Flush with a compatible solvent such as mineral spirits or water.
3. Whenever you change from **water-based to oil-based paint.** Flush with soapy water, then with mineral spirits.
4. Whenever you change from **oil-based to water-based paint.** Flush with mineral spirits, followed by soapy water, then with clean water.
5. **Before you store your sprayer.** When using water-based paint: Flush with water, then mineral spirits. Leave the pump, hose and gun filled with mineral spirits. Shut off and unplug the sprayer, open the drain valve to relieve the pressure and leave it open.

*When using oil-based paint:* Flush with mineral spirits. Leave the pump, hose and gun filled with mineral spirits. Shut off and unplug the sprayer, open the drain valve to relieve the pressure and leave it open.

6. **Before you use the sprayer after storage.**

*Before using water-based paint:* Flush out mineral spirits with soapy water and then with clean water.

*Before using oil-based paint:* Flush out mineral spirits with the fluid to be sprayed.

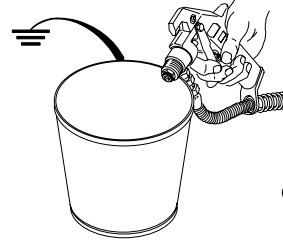
## How To Flush

1. Follow the **Pressure Relief Procedure** on page 4.
2. Pour 1/2 gallon (2 liters) of compatible solvent (see **When to Flush**) into a bare metal pail. Put the pump suction tube in the pail.
3. Be sure the pressure control knob is set at minimum, and the drain valve is closed.
4. Remove the spray tip from the gun.

5. Unlock the gun trigger safety.

### WARNING

To reduce the risk of static sparking and splashing, always remove the spray tip from the gun, and hold a metal part of the gun firmly to the side of a grounded metal pail when flushing.



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6. Point the spray gun into a grounded metal pail, and with a metal part of the gun firmly touching the metal container, squeeze the gun trigger. **This procedure helps reduce the risk of static sparking and splashing.** With the gun triggered, turn the ON/OFF switch to ON and slowly turn the pressure adjusting knob clockwise **just until** the sprayer starts. Keep the gun triggered until clean solvent comes from the nozzle.
7. Release the trigger. Open the drain valve to flush it.
8. Release the trigger and lock the gun trigger safety. Close the drain valve.
9. Check all fluid connections for leaks. If there are any leaks, follow the **Pressure Relief Procedure**, on page 4. Tighten the connections, start the sprayer, and check to be sure the leaking has stopped.
10. Remove the suction tube from the pail. Unlock the gun trigger safety and trigger the gun into a grounded metal pail to force solvent from the hose. **Do not let the pump run dry for more than 30 seconds to avoid damaging the pump packings!**
11. Lock the gun trigger safety, turn the sprayer to OFF, and unplug the sprayer. Open the drain valve. Remove the suction tube and clean separately. Flushing may not remove all sediment.
12. If you flushed with mineral spirits and are going to use a water-based paint, flush again with soapy water, and then with clean water. Then follow the **Pressure Relief Procedure** on page 4.

# Application Methods

Always hold the gun perpendicular to the surface and keep the gun at an even 12 to 14 in. (300–356 mm) from the surface you are spraying.

Begin moving the gun in a horizontal direction at a steady rate. Start the spray stroke off the target surface and pull the trigger as the gun is moving. Then, while the gun is still moving, and as you approach the other edge, release the trigger. This method avoids excess paint build-up at the end of each stroke.

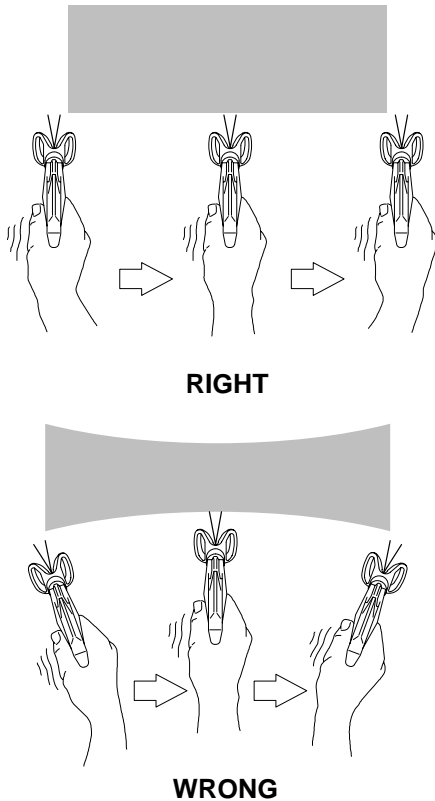


Fig. 2

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The correct speed for moving the gun will allow a full, wet coating to be applied without runs or sags. Lapping each stroke about 50% over the previous stroke produces uniform paint thickness. And spraying in a uniform pattern alternately from right to left, then left to right, provides a professional finish.

The best way to control the rate of coverage is with the gun tip size. A small tip orifice applies less paint. A larger tip orifice applies more paint. The width of the pattern depends on the fan pattern of the tip you choose.

Do not try to increase coverage by increasing the fluid pressure!

Use the lowest pressure necessary to get the desired paint atomization, which helps prolong the life of your sprayer and minimizes paint lost by overspray.

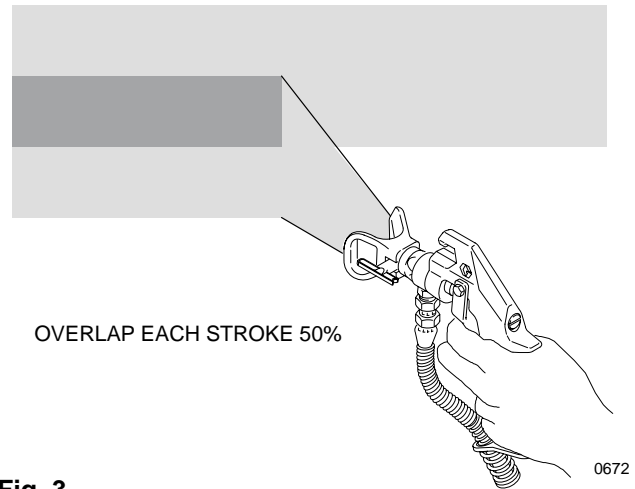


Fig. 3

For interior corners. such as on a bookcase or inside a cabinet, aim the gun toward the center of the corner to spray. By dividing the spray pattern this way, the edges on both sides are sprayed evenly.

If there is a wind. angle the spray pattern into the wind to minimize drifting. Paint from the ground to the roof.

Shrubs. When next to the house, tie back shrubs from the surface to be painted with rope and stakes. Then cover them with a canvas dropcloth as the painter approaches the area. Remove the canvas dropcloth as soon as the area is painted, to prevent damage to the shrubs.

Concrete walks. If the walkways will be walked on, cover them with a canvas dropcloth to avoid slipping. Otherwise a plastic cloth is all that is needed.

Electrical outlets and lamps. Protect electrical outlets with masking tape. Cover lamps with plastic bags secured with masking tape.

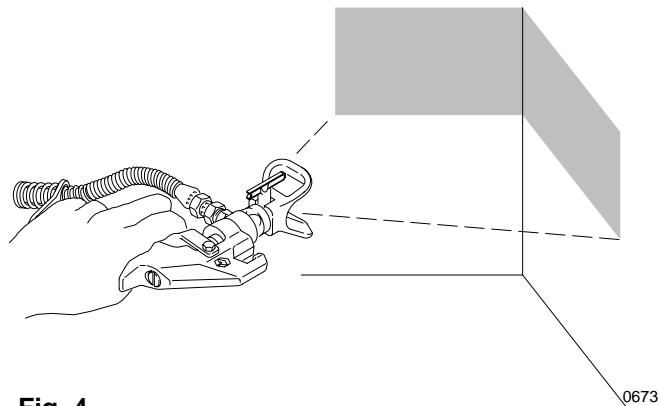


Fig. 4

Nearby objects. Move objects such as automobiles, picnic tables, lawn furniture, etc. up-wind of the surface to be sprayed. In the case of a nearby home, make a protective barrier by hanging plastic between two long poles.

# Shutdown and Care

1. **Check the packing nut/wet cup daily.** First, follow the **Pressure Relief Procedure Warning**, page 4. The packing nut should be tight enough to stop leakage – no tighter. Use a rod and a light hammer to adjust the nut. See Fig. 5. Don't over-tighten! Overtightening may cause binding and excessive packing wear.

## CAUTION

Do not nick the threads of the displacement pump, which may extend above the bearing housing, when adjusting the packing nut. A nick in the threads can strip the threads in the bearing housing when installing or removing the pump.

2. **Flush the sprayer at the end of each work day** and fill it with mineral spirits to help prevent pump corrosion and freezing. See **Flushing** on page 12.

## CAUTION

Never leave water or water-based paint in the sprayer overnight to prevent pump corrosion and freezing in the pressure control or pump, during cold weather, which can damage the sprayer.

3. **For very short shutoff periods**, leave the suction tube in the paint follow the **Pressure Relief Procedure Warning**, page 4, and clean the spray tip.

4. **Wrap the hose around the sprayer** when storing it, even if only overnight, to help protect the hose from damage.

## WARNING

Read **HOSE SAFETY** on page 5 for information on the hazard of using damaged hoses.

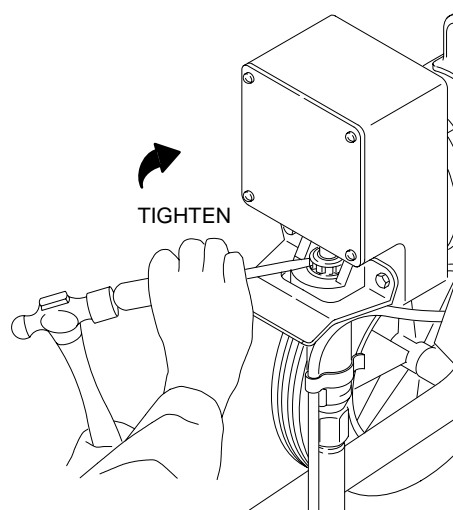


Fig. 5

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# Troubleshooting

This guide will help you identify the causes and solutions to sprayer problems. If you cannot identify and resolve the problem, or if "Return for repair" is indicated, contact your nearest authorized service agency for instructions on where and how to return the sprayer for repair.

PROBLEM	CAUSE	SOLUTION
Electric motor won't run	Power or extension cord is unplugged or building circuit fuse is blown Overload switch <sup>1</sup> has opened  Pressure setting too low Pressure control frozen <sup>2</sup> or damaged by overpressurization <sup>3</sup>	Check, reset or replace.  Unplug cord, relieve the pressure, allow to cool, decrease pressure. Clear dust and overspray from motor air passages. Increase pressure. Thaw, change, remove or clean, replace; See page 21.
Electric motor stops while spraying	Power or extension cord is unplugged or damaged, or building circuit fuse is blown Overload switch <sup>1</sup> has opened  Pressure setting is too low Spray tip plugged Wrong type extension cord	Check, reset or replace.  Unplug cord, relieve the pressure, allow to cool, decrease pressure. Clear dust and overspray from motor air passages. Increase. Remove and clean. Use maximum 200 ft. (61 m), 3 wires, 12 gauge minimum grounded extension cord.

PROBLEM	CAUSE	SOLUTION
Electric motor runs but no output or low output (Also see <b>PROBLEM</b> , Not enough paint pressure, on page 13)	Piston ball check not seating Piston packings worn or damaged Intake valve ball check not seating Displacement pump frozen or gear train damaged Pressure control frozen <sup>2</sup> or damaged by overpressurization <sup>3</sup> Sprayer not primed	Service, see page 16. Replace, see page 16. Service, see page 16. Thaw <sup>2</sup> , replace.  Thaw, change, remove or clean, replace, see page 21. Prime, see page 11.
Electric motor labors when starting; blowing fuses	Capacitor failure Circuit board failure	Replace capacitor, see page 18. Replace circuit board, see page 21.
Paint leaks into wet-cup	Throat packings worn or damaged	Replace, see page 16.
Electric motor hums but will not run	Circuit board failure Low voltage  Capacitor failure Drive assembly damaged	Replace circuit board, see page 21. Never use more than 200 ft. (61 m) of 12 gauge extension cord; use a long fluid hose instead; check power supply which should be 110 Volt minimum. Replace capacitor. Replace drive assembly; see page 19.
Excessive surge at spray gun	Spray tip is plugged Spray tip is too big or worn Pressure control frozen <sup>2</sup> or damaged by overpressurization <sup>3</sup> Wrong type of hose  Paint too viscous	Remove and clean. Change spray tip. Thaw, change, remove or clean, replace; see page 21. Use minimum 50 ft. (15.2 m) static-free nylon hose only (wire braid hose is unacceptable). Thin.
Not enough paint pressure	Pressure setting too low Spray tip too big or worn Pressure control frozen <sup>2</sup> or damaged by overpressurization <sup>3</sup> Worn pump parts	Increase. Change spray tip. Thaw, change, remove or clean, replace; see page 21. Service, see page 16.
Tails or fingers in spray pattern	Pressure setting too low Outlet hose dirty or plugged Spray tip too big or worn Paint supply is low or pail is empty Paint too viscous Wrong type of hose	Increase. Clean. Change spray tip. Fill and reprime. Thin. Use minimum 50 ft. (15.2 m) static-free nylon hose only (wire braid hose is unacceptable).
Paint runs or sags	Spray tip too big or worn	Change spray tip.
Spitting from spray gun	Paint supply is low or pail is empty Sprayer sucking air or gun needle not seating	Fill and reprime. Tighten fittings, service gun.
Static sparking from spray gun	Sprayer or work is not grounded	Check conductivity of hose, electrical outlet, ground, etc.

<sup>1</sup> The electric motor has an over-temperature switch which automatically resets upon cooling. If it opens and the electric motor shuts itself off, unplug the power supply cord and let the sprayer cool for 30 to 60 minutes. Always use the lowest pressure setting needed when spraying. Prevent overspray from restricting air passages; check and clean often.

<sup>2</sup> Freezing results from failure to replace the water-base paint or flushing water with mineral spirits, and usually causes permanent damage to the pressure control.

<sup>3</sup> Over-pressurization results from (1) using less than 50 ft. (15.2 m) of nylon spray hose, (2) from using a wire braid spray hose, (3) from adding a shutoff device between the pump outlet and the spray gun, (4) from attaching a spray hose to the pressure drain valve, or (5) from using a clogged or incorrectly assembled filter.

# Displacement Pump

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

## Removing the Pump

1. Flush the sprayer if possible.
2. Remove the hose clamps (87, 88) and move the drain tube (90) away from the pump. Unscrew and remove the suction tube (52). Remove the adapter (50). See Fig. 6.
3. Disconnect the hose (20) from the nipple (22). See Fig. 6.
4. Push the retaining spring (55) up. Push out the pin (57).
5. Loosen the cylinder locknut (103) and unscrew the pump (26) from the drive assembly (65).
6. See **Disassembling the Pump**, below.

## Installing the Pump

1. To reinstall the pump, rotate the crankshaft so that the connecting rod (64) is in its lowest position. Pull the pump piston rod (47) about 1–1/2 inches out of the cylinder (46), and turn the rod so the pin hole is about 90° from the outlet nipple (22). Screw the cylinder locknut (103) all the way down.
2. Screw the pump (26) into the drive assembly (65) until the holes in the piston rod and the connecting rod are aligned. Insert the pin (57) and push the retaining spring (55) down over the pin.
3. Screw the pump cylinder *completely* into the drive assembly; you will feel some resistance from the packings. Now turn the cylinder back until the outlet nipple (22) faces back. Screw the hose (20) onto the nipple; tighten it securely. To avoid having the cylinder locknut (103) loosen due to vibration, tighten the locknut up against the drive housing to 70 ft–lb (95 N.m).
4. Reassemble remaining parts reverse from disassembly.

**NOTE:** Use Repair Kit No. 820–549 to repair the pump. See page 27. Use all the parts in the kit, even if the old ones look good. Old and new parts do not seal together well, and the pump may leak.

## Disassembling the Pump

1. Remove the pump from the sprayer as described above.

2. Unscrew the intake valve (48) from the cylinder (46). If the valve is seized in the housing, squirt penetrating oil around the threads and gently tap around the housing with a light hammer to loosen. See Fig. 7 and 9. Remove the ball guide (40), the stop pin (39) and the ball (28). Clean and inspect the parts for wear or damage.

**NOTE:** Test the intake valve by filling it with solvent and seeing if any solvent leaks past the ball. It shouldn't leak. The valve must be clean for this test; any dirt will hold the ball off the seat and let the solvent leak past.

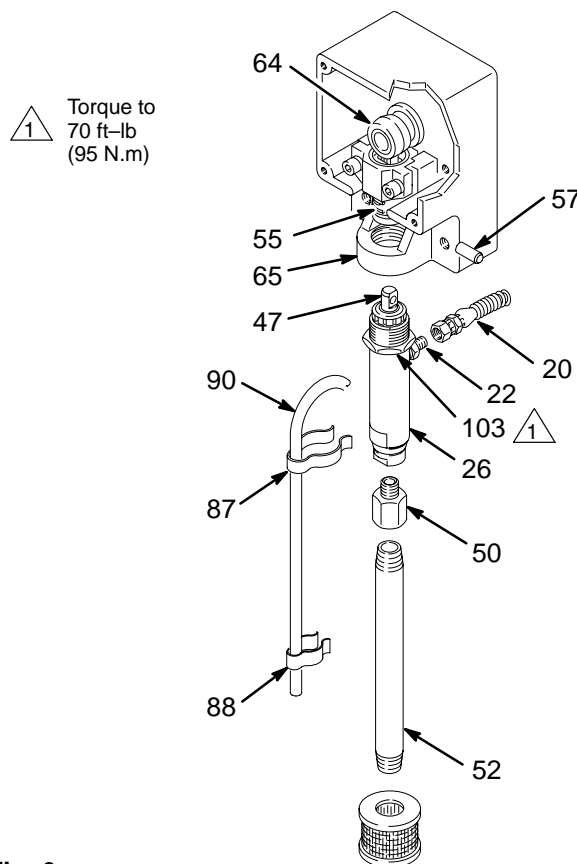


Fig. 6

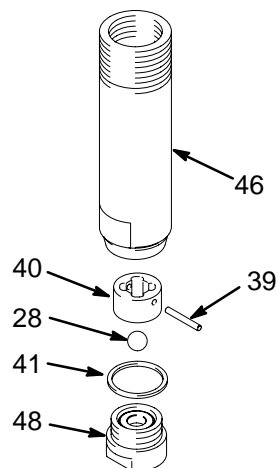


Fig. 7

0742



# Displacement Pump

3. Unscrew and remove the packing nut (38). Using a rubber mallet, tap the piston rod (47) down and pull it out through the bottom of the cylinder (46). See Fig. 8 and 9.
4. Remove the glands (34 & 37) and the packings (35 & 36).
5. Clean and inspect the piston rod and the inside of the cylinder for nicks, scratches or scoring which could cause leaking or premature wear of the packings.
6. Clamp the flats of the piston rod in a vise. Use a wrench to loosen the nut (33) and unscrew the piston valve (49) from the piston rod. Remove the ball (27), nut (33), glands (30 & 32), packings (31 & 43), seal (29), and washer (45).

## Assembling the Pump

1. When assembling the pump, coat the packings, the piston rod and the inside of the cylinder with oil.
2. When reassembling the piston, install the new glands and packings in the correct order, alternat-

ing the leather and plastic packings. See Fig. 8. The "V" of the packings must face up against the fluid pressure. See Fig. 9. Tighten the nut (33) to 10.5 in-lb (1.2 N.m) to seat the packings, then back off the nut and hand tighten it.

3. Place a new ball (27) in the piston rod (47). Apply locking compound to the threads of the piston valve (49) and screw it into the rod hand tight, 1–2 in-lbs (0.11–0.22 N.m) torque. Tighten the nut against the piston rod to 18–20 ft-lb (24–27 N.m) torque, without changing the tightness of the nut against the packings.
4. Install the throat packings, glands and packing nut, leaving the packing nut loose. The "V" of the packings must face down against the fluid pressure. Alternate the plastic packings (36) and the leather packings (35). See Fig. 8.
5. Insert the piston rod (47) through the bottom of the pump cylinder (46).
6. Assemble and install the intake valve (48); torque it to 75–85 ft-lb (100–115 N.m). Tighten the packing nut (38) just enough to stop leakage—no tighter.

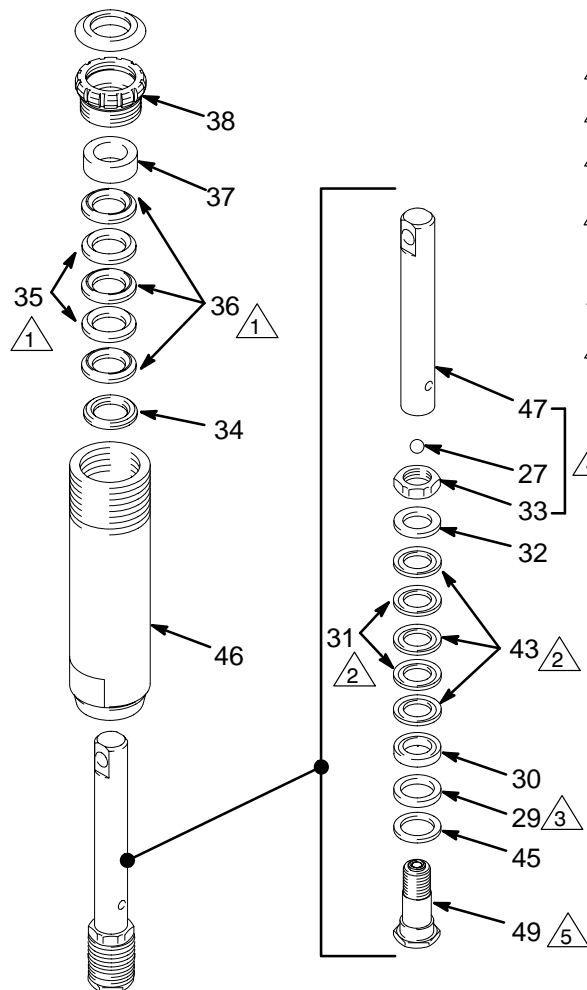


Fig. 8

0743

- 1 V of packing faces down
- 2 V of packing faces up
- 3 U-cup packing faces down
- 4 Torque to 18–20 ft-lb (24–27 N.m)
- 5 Torque to 1–2 in-lb (0.11–0.22 N.m)
- 6 Torque to 75–85 in-lb (100–115 N.m)

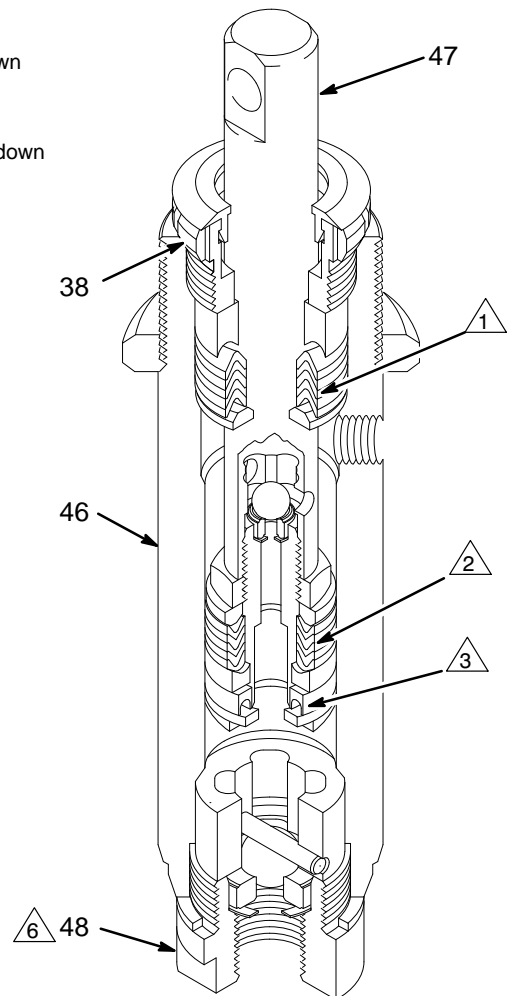


Fig. 9

0700

# Connecting Rod and Bearing

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

1. Remove the pump as described on page 16. Remove the four screws (58) and the cover (59). Remove the two capscrews (61) and lockwashers (9). Remove the bearing (63) and the connecting rod (64), sliding the connecting rod off the crankshaft. (J). See Fig. 10.
2. Use a screwdriver to push the retaining spring (55) aside and remove the pin (57) from the coupling (56). Remove the coupling from the connecting rod (64).
3. Pull the connecting rod (64) out of the bearing (63). Wipe it clean (don't use solvent) and inspect the surfaces of the bearing and the connecting rod link (K) for wear or damage. If either needs replacing, replace both of them. When installing the rod and the bearing, coat the surfaces with SAE 10 non-detergent motor oil.
4. Clean and inspect the crankshaft. (J). Wipe it clean with a rag; do not use solvent. If the crankshaft is badly worn, replace the drive assembly.
5. Clean and inspect the connecting rod needle bearing (L). Repack bearing with industrial, heavy-duty, extreme-pressure, lithium-soap grease.

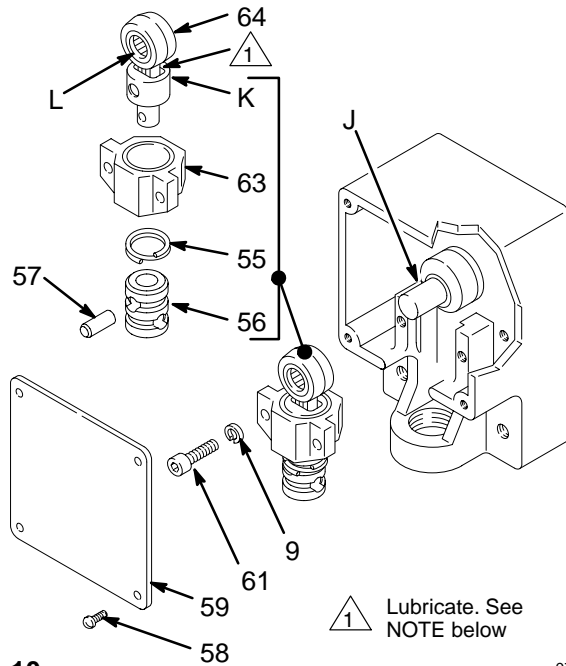


Fig. 10

0745

**NOTE:** After every 100 hours of operation, or whenever servicing the pump (whichever comes first), fill the cavity in connecting rod (64) with SAE 10 non-detergent motor oil.

6. Assemble the new rod and bearing in the reverse order of disassembly. Be sure to push the spring (55) down in place over the ends of the pin (57).

# Capacitor

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

1. Unplug the sprayer. Remove the cover of the capacitor (5). See Fig. 11.
2. Remove the flag connectors from the old capacitor. Connect the flag connectors of the new capacitor and replace the cover.

**NOTE:** The replacement capacitor includes a new resistor already installed.

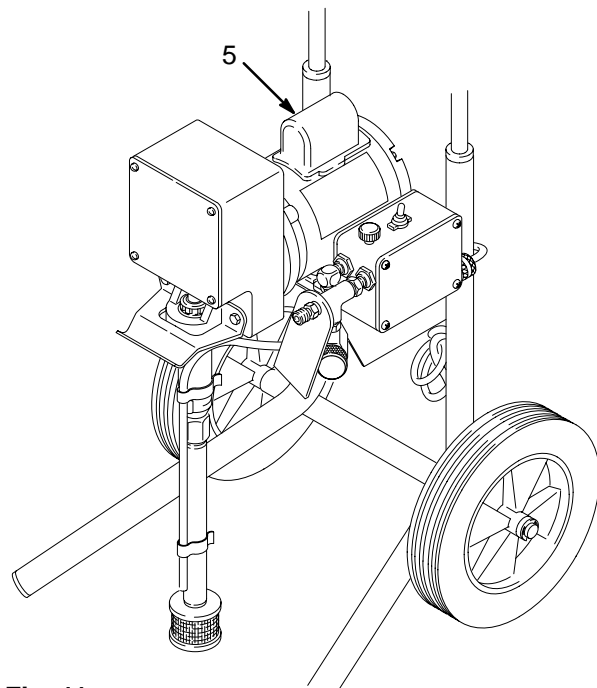
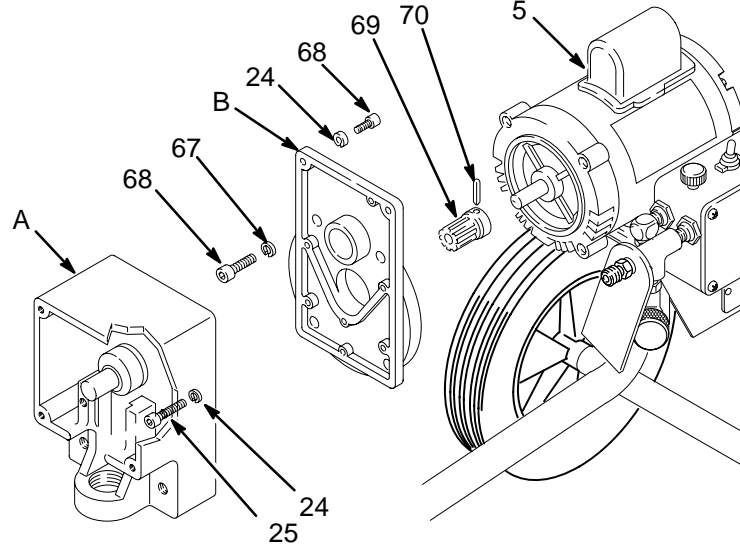


Fig. 11

# Drive Assembly

- age. Replace it if necessary. To remove the gear, drive out the pin (70), and pull it off the motor shaft. Apply molybdenum disulfide spray lubricant to the new gear, allow to dry, then apply industrial, heavy-duty extreme-pressure, lithium-soap grease.



**Fig. 12**

# Electric Motor

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

1. Disconnect the hose (20) from the nipple (22). See Fig. 6, page 16.
2. Remove the drive assembly as described above. You can leave the pump, connecting rod, and bearing assembled to the drive assembly.
3. Drive out the pin (70) and remove the gear (69). See Fig. 13.

4. Remove the screws (78) and the cover (79) from the pressure control (74). See Fig. 14.
5. Disconnect the five motor leads.
6. Unscrew the nuts on both ends of the conduit (76) from the connector (75). Remove the screws (8), nuts (18) and lockwashers (9). See Fig. 13. Lift the motor (1) while carefully guiding the wires through the connector in the control box. Remove the conduit (76) from the wires.
7. Loosen the locknut and unscrew the connector (75) from the motor, being careful to avoid twisting the wires.
8. Install the new motor in the reverse order of removal.

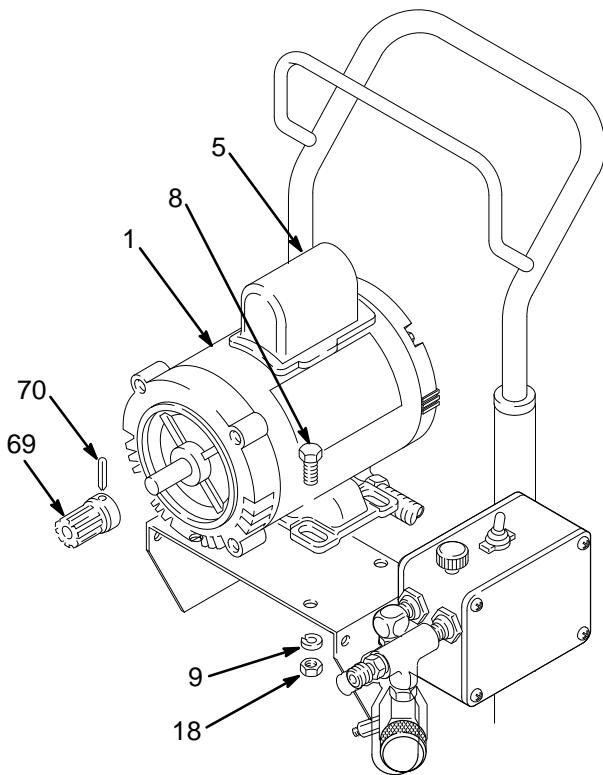


Fig. 13

0747

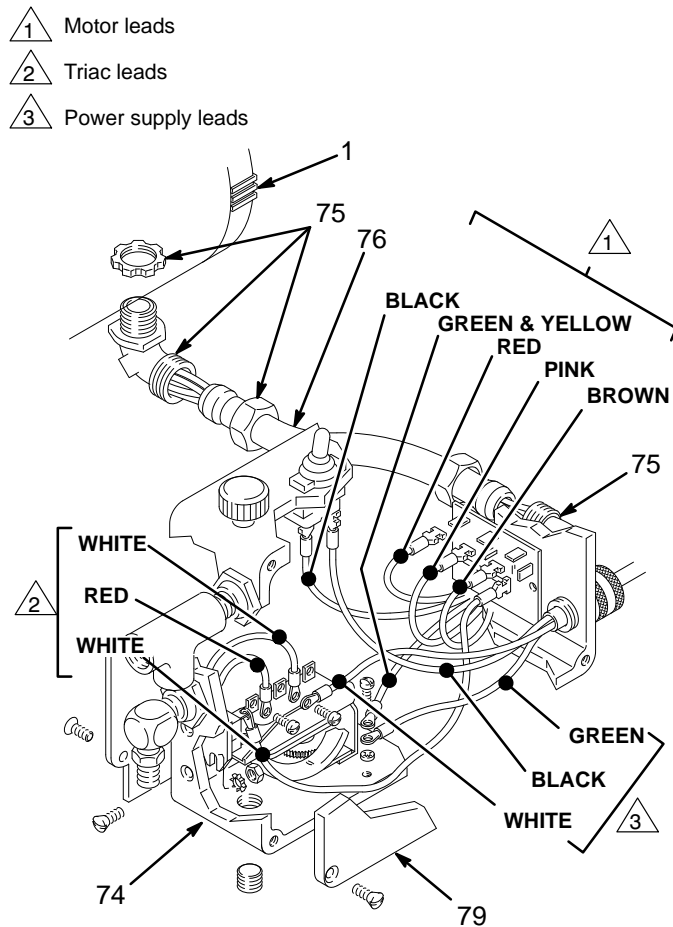


Fig. 14

0749

# Pressure Control & Circuit Board

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

**NOTE:** A circuit board (81) is not included with a new pressure control (74). However, it is included with a new motor and it can be ordered separately.

Be sure to order the correct circuit board. See the application information on page 26.

## CAUTION

Do not allow the fittings (A) to move when removing the elbow (93) or tee (94) from the pressure control, to avoid altering the factory setting of the pressure control or damaging the pressure control.

## Circuit Board Removal

1. Remove the pressure control cover (79). Pull the circuit board (81) out carefully, just enough to reach the wire terminals. Disconnect the leads. Remove the board. See Fig. 16.

## Pressure Control Removal

2. Disconnect the hose (20). See Fig. 15.
3. Disconnect the remaining two motor leads (black and green/yellow). See Fig. 16.
4. Remove the mounting screws (8). See Fig. 15.
5. Pull the pressure control (74) away from the conduit (76) and carefully guide the leads through the connector (75) one at a time. See Fig. 16.
6. Remove the mounting bracket (77). Remove the fittings (93,94). Install these parts on the new pressure control. See Fig. 15.

## Pressure Control Installation

7. Guide the motor leads into the new pressure control.
8. Position the circuit board (81) in the pressure control so the wire connectors are at the top. Connect the leads to the board as shown in Fig. 16. Guide the leads into the pressure control, making sure they don't catch on anything. Slide the board into place.
9. Connect any other loose wires. See Fig. 16.
10. Mount the pressure control on the cart.
11. **ADJUST THE PRESSURE CONTROL!** See page 22.

## WARNING

Adjust the pressure control whenever a new or used pressure control or circuit board is installed, to reduce the risk of overpressurization which can result in component rupture, fire or explosion. Improper adjustment may also prevent the sprayer from obtaining the maximum working pressure, resulting in poor sprayer performance.

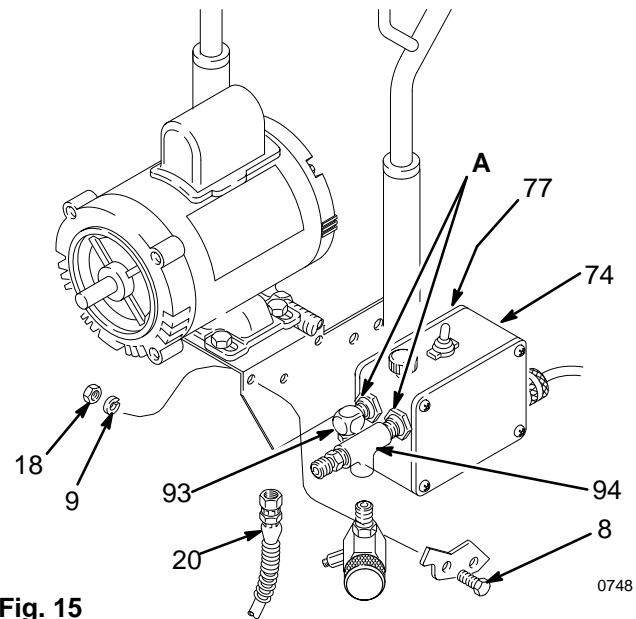


Fig. 15

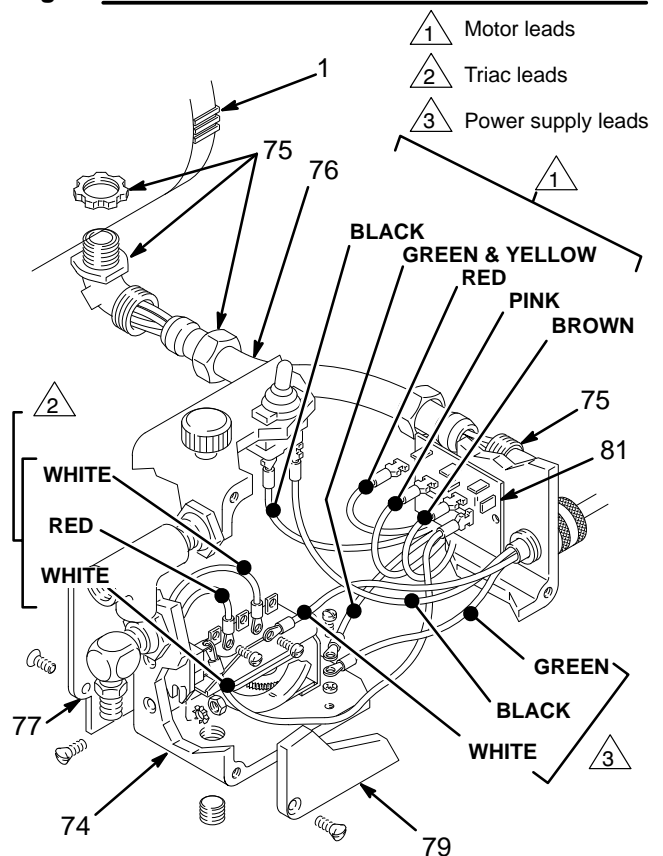


Fig. 16

# Pressure Control Adjustment

## WARNING

**USE EXTREME CAUTION WHEN PERFORMING THIS ADJUSTMENT PROCEDURE** to reduce the risk of an injection injury or other serious injury which can result from component rupture, electric shock, fire, explosion, or moving parts.

This procedure sets the sprayer to 2500 psi (172 bar) Maximum Working Pressure.

This procedure must be performed whenever micro-switch or pressure control assembly is removed and reinstalled or replaced to be sure the sprayer is properly calibrated.

Improper adjustment can cause the sprayer to over-pressurize and result in component rupture, fire or explosion. It may also prevent the sprayer from obtaining the maximum working pressure which would result in poor sprayer performance.

NEVER try to increase the fluid outlet pressure by performing these adjustments in any other way. Normal operation of the sprayer at higher pressures could result in component rupture, fire or explosion. To perform this adjustment, however, the sprayer pressure must be *temporarily* increased above the normal working pressure.

Use a new 50 foot (15.2 m) spray hose rated for 3000 psi (210 bar) Maximum Working Pressure when performing this procedure. A used, under-rated hose could develop a high pressure leak or rupture.

## Service Tools Needed

- New 50 ft., 3000 psi (210 bar) flexible nylon airless spray hose (A), 223-541
- Fluid filled pressure gauge (B), 102-814
- 5 gallon pail and water
- Needle valve (C), P/N 102-715 or 103-067
- 3/8 in. socket wrench
- Mineral spirits
- Tee, 104-984 (D)
- Nipple, 162-453 (E)

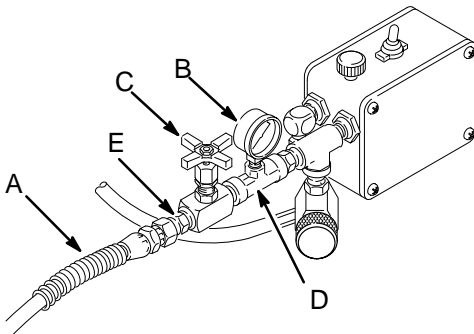


Fig. 17

0785

## WARNING

To reduce the risk of serious injury, always follow the **Pressure Relief Procedure Warning** on page 4 before continuing.

1. Plumb the pressure control with additional parts as shown in Fig. 17. Connect the needle valve to the open end of the hose.

**NOTE:** See Fig. 18 for the following procedure.

2. Remove the cover (79) and plug (123).
3. Open the needle valve slightly. Turn the pressure control knob (F) to the minimum setting.
4. Plug in and turn on the sprayer. Increase the pressure setting just enough to start the sprayer. Prime the hose and purge all air from the system.
5. Open the needle valve a little more—until the pump runs continuously—and turn the pressure control knob to maximum. Now, very slowly start to close the needle valve, but don't close it all the way. Observe the pressure at which the pump stalls, which should be approximately 2500 psi (172 bar).

**NOTE:** The slower the pressure is raised, the easier it is to note the exact stall pressure. Closing the needle valve quickly causes the pressure to rise too fast which gives a false reading.

If the pressure is lower than 2500 psi (172 bar):

Unplug the sprayer. Relieve the pressure. Insert the socket wrench through the plug hole and un-tighten the pressure adjustment nut 1/8 turn or less, then repeat steps 5 and 6.

If the pressure is higher than 2500 psi (172 bar):

Unplug the sprayer. Relieve the pressure. Insert the socket wrench through the plug hole (H) and tighten the pressure adjustment nut 1/8 turn or less and repeat steps 5 and 6. Repeat this procedure until the proper stall pressure is obtained.

# Pressure Control Adjustment

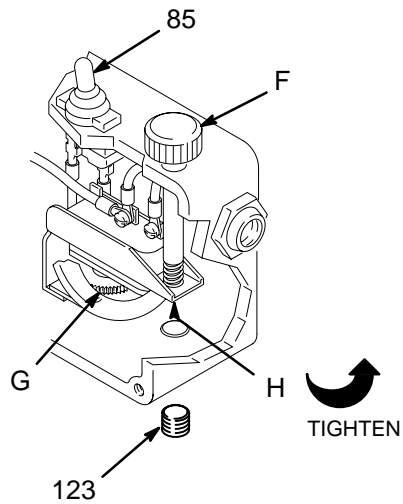


Fig. 18

0750

6. Check to see at what pressure the sprayer starts to run again after it stalls. Plug in the sprayer, turn it on, close the needle valve, and set the pressure at maximum. Allow the sprayer to run until it stalls.

7. Open the needle valve very slowly while observing the pressure gauge. Check to see if the pressure drops to approximately 2100 psi (147 bar) before starting again.

If the pressure is not 2100 psi (147 bar): Shut off and unplug the sprayer, but do not relieve the pressure. Turn the differential wheel (G) just one notch and repeat Steps 5 and 6. Check the pressure drop again and repeat if necessary.

**NOTE:** Always recheck the stall pressure (steps 5, 6) if the differential wheel was adjusted.

8. Follow the **Pressure Relief Procedure Warning** on page 4. Flush the water out with mineral spirits. Relieve the pressure again. Install the plug (123) and cover (79 –not shown). Remove the test equipment.

# Parts– Sprayer

## Model 820–001, Series E

Includes items 1 to 123

Ref No.	Part No.	Description	Qty
1	820–852	MOTOR, electric, 0.5 HP: includes items 5, 7, 81, 104, 105, 119	1
3	820–252	LOCKWASHER	2
5	820–340	CAPACITOR	1
7▲	185–952	LABEL, DANGER, English	1
8	820–675	CAPSCREW, hex hd, 5/16–18 x 7/8"	7
9	820–258	LOCKWASHER, spring, 3/8"	9
13	820–469	RING, retaining, ext.	2
15	820–294	SPACER	4
16	820–482	WHEEL	2
18	820–267	NUT, hex, 6–32	7
19	820–578	VALVE, pressure relief	1
20	820–524	HOSE, nylon, 1/4" ID, 1/4 npsm (fbe), 29" (740 mm), spring guards	1
22	820–421	NIPPLE	2
24	820–273	LOCKWASHER (part of Ref No. 65)	5
25	820–274	CAPSCREW (part of Ref No. 65)	3
26	820–377	DISPLACEMENT PUMP See page 27 for parts	1
50	820–350	ADAPTER, 3/8(m) x 1/2 npt(f)	1
52	820–481	TUBE, suction	1
54	820–931	STRAINER	1
55	820–304	SPRING, retaining	2
56	820–305	COUPLING, pump	1
57	820–306	PIN, str, hdl, 0.3125" dia. x 1.02" lg	2
58	820–522	SCREW	4
59	820–308	COVER, gearcase	1
60	820–003	LABEL, identification	1
61	820–309	CAPSCREW, socket head, 5/16–18 x 7/8"	2
63	820–311	BEARING	1
64	820–312	CONNECTING ROD	1
65	820–336	DRIVE ASSEMBLY Includes replacement items 24, 25, 66–68	1
66	820–314	.CAPSCREW, socket head, 3/8–16x1"	4
67	820–315	.LOCKWASHER	4
68	820–316	.CAPSCREW, 1/4–20 x 3/4"	2
69	820–317	GEAR, pinion	1
70	820–318	PIN	1
71	820–319	TAG, Caution	1
73	820–005	LABEL, identification	1
74	820–337	PRESSURE CONTROL ASSEMBLY See page 22 for parts	1
76	820–323	CONDUIT, electrical	4 in.
77	820–324	BRACKET, mounting	1
78	820–560	SCREW	4
79	820–551	COVER, pressure control	1
80	820–327	LABEL, identification	1
81	820–618	BOARD, circuit (included in Ref No. 1) see page 26 for application information	1

Ref No.	Part No.	Description	Qty
87	820–343	CLIP, spring	1
88	820–344	CLIP, spring	1
90	820–346	TUBE, drain, 3/8" OD	1
92	820–619	THROAT SEAL LIQUID (TSL), 8 oz.	1
93	820–410	ELBOW, street, 1/4 npt	1
94	820–414	TEE, street, 1/4 npt(fbe), male run	2
95	820–474	PLUG, tubing	2
99	820–478	SCREW, mach, hex hd, 1/4–20 x 2–3/4"	2
100	820–479	HOOK, pail	1
101	820–480	SPACER	2
103	820–291	NUT, hex, 1–1/2 –18	1
104	820–526	TERMINAL, wire, female, snap-on see page 26	4
105	820–428	TERMINAL, wire, ring see page 26	1
117	820–533	CART ASSEMBLY	1
119▲	185–955	LABEL, DANGER, French	1
122	820–413	SCREW, thread forming	4
123▲	187–959	LABEL	1

▲ Replacement Danger and Warning labels, tags and cards are available at no cost.

## Manual Change Summary

The Circuit Board Applications chart on page 26 had a part number error. The callout directly below the illustration on the left should have been 820–338 instead of 820–328.

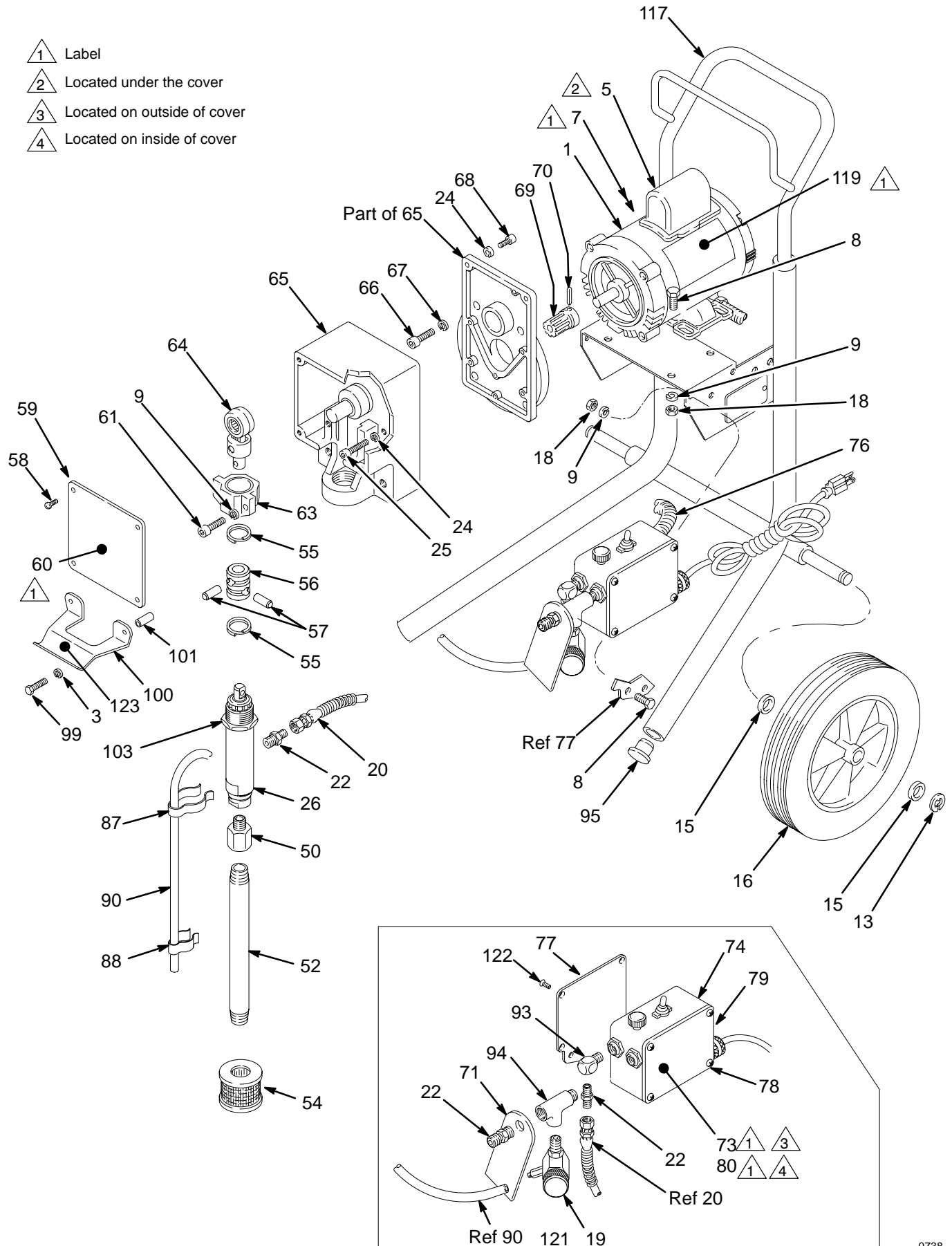
Listed by the assembly changed are OLD, NEW and DELETED parts.

Assembly Changed	Part Status	Ref No.	Part No.	Name
820–001 Sprayer	Old New	20	820–257 820–675	Screw Screw
	Old New	54	820–303 820–931	Strainer Strainer
	Add	123	187–959	Label



# Parts – Sprayer

- △ 1 Label
- △ 2 Located under the cover
- △ 3 Located on outside of cover
- △ 4 Located on inside of cover

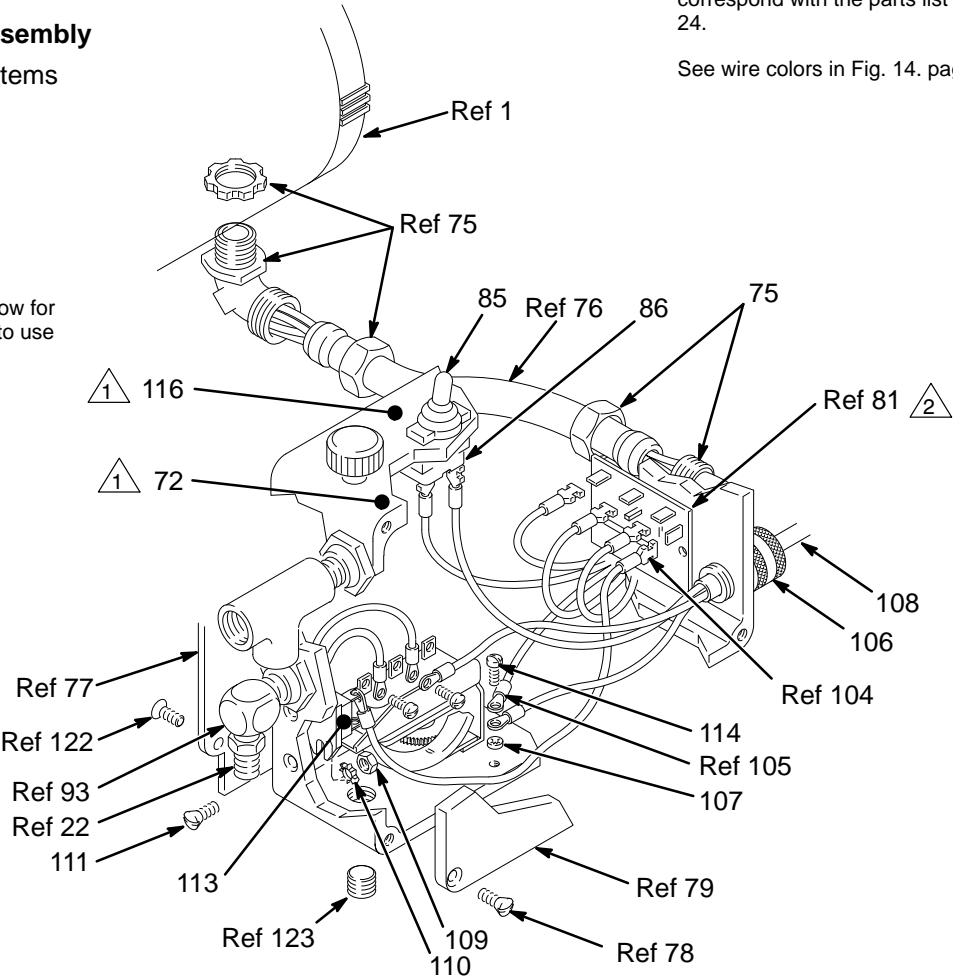


# Parts – Pressure Control

**Part No. 820-337**  
**Ref No. 74**  
**Pressure Control Assembly**  
Includes replaceable items  
listed below

NOTES:  
Numbers with "Ref" preceding them  
correspond with the parts list on page  
24.  
  
See wire colors in Fig. 14, page 20.

- 1 Label
- 2 See information below for  
which circuit board to use

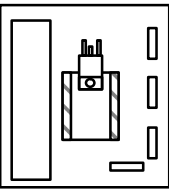
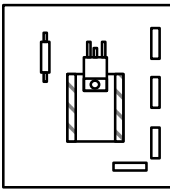


Ref No.	Part No.	Description	Qty
71	820-319	TAG, caution <i>see page 25</i>	1
72	820-320	LABEL, caution	1
75	820-322	CONNECTOR, conduit, 90°	1
85	820-341	BOOT, switch	1
86	820-342	SWITCH, toggle	1
106	820-527	BUSHING, strain relief	1
107	820-448	LOCKWASHER, int, No. 8	1
108	820-528	CORD SET	1
109	820-529	NUT, hex, No. 6-32	2
110	820-530	LOCKWASHER, No. 6	2
111	820-531	SCREW, mach, flat hd, No. 6-32 x 5/8"	2
113	820-532	TRIAC	1
114	820-424	SCREW, mach, pan hd, No. 8-32 x 5/16"	1
116▲	178-797	LABEL, warning	1
123	820-556	PLUG, pipe	1

▲ Replacement Danger and Warning labels, tags and cards are available at no cost.

## Circuit Board Applications

Identify the correct circuit board for your sprayer by matching the information below. The circuit boards may be purchased separately, but all replacement motors for this sprayer include a new circuit board.

	Circuit Board P/N and Style	
820-338 used in		820-618 used in
820-001, A, B, C & D	Sprayer, Series	820-001, E
820-332	Sherwin William Motor P/N	820-852
YES	External Motor Fan?	NO
1112125400	Franklin Motor P/N	1101007414

# Parts – Displacement Pump

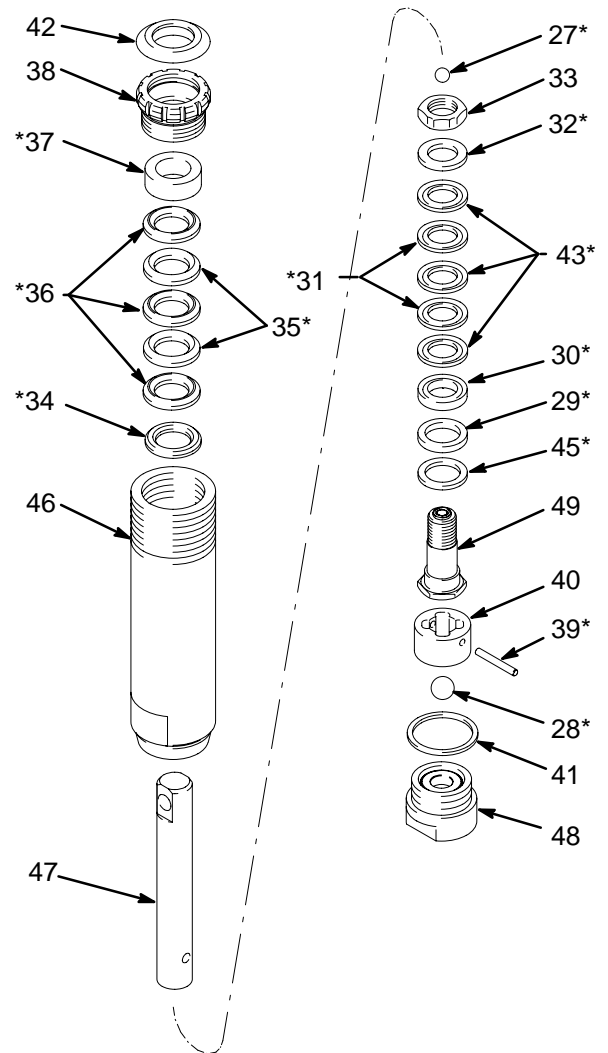
**Part No. 820-377**

**Ref No. 26 Displacement Pump**

Includes items 27 to 49

Ref No.	Part No.	Description	Qty
27*	820-276	.BALL, stainless steel, 0.3125"	1
28*	820-277	.BALL, stainless steel, 0.5"	1
29*	820-278	.SEAL, u-cup, polyurethane	1
30*	820-463	.GLAND, female	1
31*	820-280	.V-PACKING, leather	2
32*	820-281	.GLAND, male	1
33	820-282	.NUT, hex, 1/2-20	1
34*	820-283	.GLAND, male	1
35*	820-284	.V-PACKING, leather	2
36*	820-285	.V-PACKING, PTFE	3
37*	820-286	.GLAND, female	1
38	820-287	.NUT, packing	1
39*	820-288	.PIN, stop, ball	1
40	820-289	.GUIDE, ball	1
41	820-290	.GASKET, copper	1
42	820-485	.PLUG, button	1
43*	820-292	.V-PACKING, polyethylene	3
45*	820-464	.WASHER, backup	1
46	820-466	.CYLINDER, pump	1
47	820-465	.ROD, piston	1
48	820-297	.VALVE, intake	1
49	820-484	.VALVE, piston	1

\* These parts are also included in Repair Kit 820-549, which may be purchased separately. Keep an extra kit on hand to reduce downtime.



# Technical Data

Maximum Working Pressure	2500 psi (172 bar)
Electric Motor	0.50 HP AC, CSA approved
Power Requirements	120 V, 60 Hz, 15 amp or 4500 watt generator
Extension Cord Requirements	No. 12 gauge, 3–wire, up to 200 ft. (61 m)
Maximum Delivery	0.33 gpm (1.25 liter/min)
Fluid Inlet	3/4 npt(m) with 30° chamfer
Fluid Outlet Size	1/4 npsm(m)
Spray Hose Requirements	Grounded, 50 ft. (15 m) minimum, non-wire braid, spring guards both ends
Wetted parts	Stainless Steel, Aluminum, Delrin®, PTFE, Polyethylene, Polyurethane, Tungsten Carbide, Nylon, Nitralloy
Dimensions	<i>Weight:</i> 70 lb (32 kg) <i>Height:</i> 41 in. (1041 mm) <i>Length:</i> 20.5 in. (421 mm) <i>Width:</i> 20.5 in. (521 mm)

Delrin® is a registered trademark of the DuPont Company.

## The Sherwin–Williams Warranty and Disclaimers

The Sherwin-Williams Company warrants this sprayer to be free from defects in material and workmanship on the date of sale to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, The Sherwin-Williams Company will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective, with the exception of defects in parts of the drive train/gear box on Nova® sprayers, which will be repaired or replaced for thirty-six months from the date of sale. This warranty applies only when the equipment is installed, operated and maintained in accordance with The Sherwin-Williams' Company written recommendations.

This warranty does not cover, and The Sherwin-Williams Company shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-original equipment manufacturer component parts. Nor shall The Sherwin-Williams Company be liable for malfunction, damage or wear caused by the incompatibility with Sherwin-Williams equipment of structures, accessories, equipment or materials not supplied by The Sherwin-Williams Company, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by The Sherwin-Williams Company.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Sherwin-Williams sales/service outlet for verification of the claimed defect. If the claimed defect is verified, The Sherwin-Williams Company will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**Disclaimers and Limitations.** The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), including **warranty of merchantability or warranty of fitness for a particular purpose**, and of any non-contractual liabilities, including product liabilities based on negligence or strict liability. Every form of liability for direct special or consequential damages or loss is expressly excluded and denied. In no case shall The Sherwin-Williams Company liability exceed the amount of the purchase price.

**The SHERWIN–WILLIAMS COMPANY, CLEVELAND, OHIO 44115**

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